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The community 911 system: Sources of strain and relief

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The Community 911 System: Sources of Strain and Relief

An Honors College Project Presented to
the Faculty of the Undergraduate
College of Math and Science
James Madison University

by Elizabeth Helen Zulauf

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Accepted by the faculty of the Department of Health and Behavioral Studies, James Madison University, in partial fulfillment of the requirements for the Honors College.

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PUBLIC PRESENTATION

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I. Introduction and Problem Statement

A. Introduction:

Emergency Medical Services (EMS) are used throughout the country as first responders to those in need with emergency medical conditions. The already limited resources that EMS have are often overwhelmed by those who use EMS for non-emergency reasons. Non-emergency calls are increasingly contributing to the burden of EMS all across the country, however the volume of non-emergency calls that patients are making differ from county to county based on the populations. Specifically, here in the Harrisonburg community, Captain Paul Helmuth of the Harrisonburg Fire department says that EMS receives more than 8,000 calls a year but only one to two ambulances are on shift at any time, and they are staffed by mostly volunteers (2017). According to an SRMH health director, as a volunteer organization, the Harrisonburg Rescue Squad (HRS) has had a 200% increase in calls since 2005 (2017). Of the call load that HRS receives, Helmuth estimates that of the 8000 calls, around 50% of the calls do not require an emergency room visit. (2017).

This thesis will identify best practices from other localities around the country and propose a set of possible solutions for Harrisonburg EMS. Because non-emergency 911 calls use resources, finances, equipment and time that contribute to the burden that the emergency system faces, communities have adopted programs that aim to ease this burden by limiting the amount of ambulance responses to calls that turn out to be non-emergency. It is not only in Harrisonburg, but across the country that “providers are overwhelmed with evaluation, treatment and

transportation of patients who have minor medical conditions but who have nowhere else to turn or who believe that they are entitled to call” (Morehead Taxi Voucher Guidelines 2016) Some of these programs, particularly those dealing with frequent flyers, could be adopted in Harrisonburg.

Kelly Urban, the EMS coordinator in Morehead, North Carolina, said in an interview that some non-emergency patients further overburden the system by repeatedly calling 911, even when knowing the issue is not an emergency (2017). The term ‘frequent flyers’ was coined by emergency healthcare providers, to describe this kind of caller. According to the article “How's your frequent Flyer Program”, this term defines individuals who use emergency services most frequently, disproportionately and for far less severe reasons than others. (Smith 2007)

Frequent flyer individuals over-burden emergency services by repeatedly calling when their needs are not true emergencies. (Safety Net Representative 2017). Frequent flyer contributions to the call volume create a potentially deadly problem, because while EMS is dealing with them, the ambulance and crew are not available to serve other patients who may truly be facing emergencies. A hidden danger with frequent flyers is that responders may adopt a mindset whereby they just expect to be responding to a non-emergency, and then they miss an actual issue. For example, if EMS are responding repeatedly to an alcoholic who calls 911, expecting to encounter a frequent flyer call and arriving to just transport him to a place he could sober up, they are less prepared for rapid, life-saving action. In one illustration shared during this research (Safety Net Representative 2017), EMS missed the fact that a caller with this profile was actually having a stroke.

There are a variety of reasons that individuals tie up emergency services by repeatedly calling for non-emergencies. For example, some individuals suffer from mental illness. All they really need is to have someone to talk to and do not require medical care. This can also manifest itself in individuals seeking social attention or simply relief from isolation. Individuals who live alone often have no one to notice or help with mental or health care needs. Calling 911 is their first thought even in non-emergencies, possibly because they feel very upset and are simply not aware of other resources. Other individuals are unable to care for themselves in non-emergency situations for a variety of reasons including lack of basic health education, physical fitness, transportation, and knowledge about proper resources. In some cases, poor education can lead to patients who call because they are overestimating the severity of their injury (Safety Net Representative 2017). Lastly, homeless individuals will call 911 because of the food and shelter provided at hospitals; they just need transportation there and do not need any medical care.

The local EMS system in Harrisonburg, Virginia, which is the focus of this analysis, includes many overlapping departments and services, including Harrisonburg Rescue Squad (HRS), Sentara Rockingham Memorial Hospital (SRMH), the area Community Services Board (CSB), the Police Department (PD), and the Safety Net Coalition.

The Harrisonburg rescue squad consists of volunteer Emergency Medical Technicians (EMT), who are trained in basic life support (BLS) and who are the first responders to a 911 call. The HRS ambulance squads transport patients to the Emergency Department (ED) of SRMH which delivers life-saving procedures during medical and surgical emergencies. The department treats about 200 patients per day and 73,000 annually. Patients who are transported via ambulance and patients who arrive through other means are prioritized based on triage

assessment by an RN (Emergency Services at Sentara RMH 2017). The main ED treats the majority of patients, while the Fast Track area treats patients with minor illnesses or injuries. The PD also plays a role in emergency healthcare by working with the CSB to form the Crisis Intervention Team (CIT), which detains individuals in mental health crisis and brings them to the hospital for evaluation (Emergency Services: What to Expect 2017). Next, The Institution for Innovation in Health and Human Services (IIHHS) serves the community through outreach, clinical services, and education programs. It is through IIHHS, and Dr. Zingraff, that I was introduced to this community based project. Finally, the Safety Net Coalition is a group of stakeholders, such as firemen, healthcare providers, lawyers, grant writers, and EMS personnel within the community, who hold facilitated discussions about healthcare in the community. In Safety Net meetings, members share views of emergency services and insight on both the problems EMS faces and what might work as potential solutions.

B. Purpose:

The purpose of this project is to develop some informed recommendations and convey best practices by comparing the current emergency services system in Harrisonburg with other systems throughout the United States. The project will derive best practices from an analysis of community paramedics, taxi voucher programs, police and fire integration protocols based on current systems in various other jurisdictions.

Consolidating and making available the lessons learned from these programs can contribute to the local decisions that ultimately may shorten emergency room waiting time for Harrisonburg and surrounding counties. Sending non-emergent patients to other locations

(emergent care clinics, mental health clinics, or pharmacies), and/or using transportation without medical attendants will ease the financial burden on emergency services, save advanced life support equipment for use where it is most needed (Safety Net Representative 2017), and improve public knowledge of the correct use of EMS resources. As a result, Harrisonburg emergency services will potentially be able to provide improved health care treatment for those patients whose needs truly call for immediate attention even before they get to the emergency department.

This project's objective is to provide information and analysis of different programs, all of which are aimed at reduction in the burden of frequent flyers. To successfully organize a more efficient system, the current system first needs to be understood, so I have outlined the operational realities facing the multiple organizations in the current situation to help stakeholders to understand healthcare practices that occur outside of their organization or group. From this foundation, I can present research and information on programs that have been enacted outside of the Harrisonburg area. For these programs, I will offer definitions of each program, clear EMS protocols, details on sources of funding (such as grants, city budget, fire department budget, hospitals, private ambulance services, property taxes), and a summary of how the program has benefited, or hopes to benefit, the community. Benefits from such programs would be measured by indicators such as demonstrated reduction in frequent flyers, reduction in costs for health care providers and/or patients, a decrease in waiting time for appropriate care, a better patient understanding of the appropriate use of resources such as 911, and lastly, improved patient and population health.

C. Chapter Outline:

The first chapter describes emergency medical services in Harrisonburg and Rockingham County, including the significance of the frequent flyer problem. The formal problem sets the stage for the possible solutions, based in the research performed for the project. Elements of the background include: an explanation of 911 and Emergency Services in Rockingham County, operations of hospital emergency departments, police department emergency custody orders, and the Community Services Board's crisis intervention training and cross-systems mapping. Background information in the appendices includes key names, positions, and contact information for community officials.

The second chapter reviews the background of my developmental ideas and interests which led to this thesis. Included are relevant observations from experiences in emergency services at George Washington University Hospital and in clinics in South America. These experiences, supported by research, had led to this project. My Biotechnology Major, Pre-med track, brought me academic knowledge of medical services. As a trained and certified EMT, including experiential tours in the Emergency Department of George Washington University Hospital and rescue squad ride-alongs, I saw emergency medicine first-hand. I also received the JMU-sponsored Hillcrest scholarship, which funded my work abroad in clinics in rural Costa Rica and urban Cuzco, Peru.

The third chapter explains my methods for collecting relevant information, building on interviews and data analysis. The chapter documents the sources used to obtain this primary information and explain the interview protocols and questions. Transcripts of the interviews are included in the appendices. Sources include interviews with EMS volunteers, patients in the

community, Harrisonburg taxi companies, members of the Safety net coalition, and administrators of Sentara Rockingham Memorial Hospital and Harrisonburg Community Health Center. Written materials are modeled from systems throughout the country and adapted to operate within Harrisonburg Rescue Squad. In addition, I carried out secondary data analysis based on documents discovered in the community research phase.

The fourth chapter, the main body of the project, includes data from the research and interviews. The data illustrates community paramedics and 911 call procedures, pointing out the problems and challenges they face. This chapter also discusses the issue of highly trained paramedics having to make, in some cases, daily calls to high-cost patients. It examines the potential for increased use of trained case nurses for triage of 911 calls, funding for taxi vouchers to ease the burden on ambulance crews, more efficient use of physician assistants in emergency departments, and the use of alternative clinics.

The fifth and last chapter formally proposes suggestions for future improvements, and an assessment of which of the possible solutions identified in chapter four would best address the specifics of Harrisonburg and Rockingham County's emergency services caseload. Finally, the project concludes with reflections on experiences with the EMS system, and conclusions of conducting a community based creative project within the community through the Honors College.

II. Project development

A. Training and Internships:

During EMT training in the summer of 2015 at George Washington University Hospital, I observed first-hand the operation of a major urban emergency services department. I observed efficiencies in emergency services that could apply to the problems observed in Harrisonburg. For instance, the sheer volume of experienced personnel allowed calls to be handled with efficiency. Additionally, the experience of personnel was helpful when dealing with frequent callers by building relationships and familiarity with the patients and their medical history, allowing for more continuous care.

As an EMT volunteer in the summer of 2016, I observed the workings of medical clinics in a small town in Costa Rica, as well as a large, urban hospital and a private facility in Peru. This internship was sponsored by the James Madison University Honors College through IFRE (the Institute for Field Research Expeditions) volunteers. While these were not formally emergency services departments, I was able to learn lessons in efficiencies in initial processing of patients. First, in Costa Rica, I dealt with many patients with poor diet and physical fitness, which lead to routine clinic visits just to check in and monitor progress. These conditions would not be considered emergency situations in the United States, nor would they be likely to cause Americans to seek medical help on routine visits. A few of these patients had underlying medical conditions that would, in this country, justify their seeking regular medical help. These regular visits did not seem in any way to require emergency medical service transportation. I wondered at the time, how would these sorts of patients get to medical treatment in the United States, if they did not have their own means of transportation, other than by using, and potentially abusing emergency medical services?

In contrast, when I was in Peru, the majority of patients I dealt with were travelers with little money, who had not planned on spending time, let alone free time, on regular hospital visits. Patients would not think of calling emergency services unless it was a true emergency because the time and financial cost took away from their travels. However, while abroad I did not experience the effect of continuous patient care, abuse of which we would call frequent flyers in the United States, because patients would come and go from the city. I did not understand how the facility in Peru would have been able to handle a larger influx of patients seeking more continuous care.

In both Cusco and Peru, the private clinics where I worked were only visited by patients who could afford it. Healthcare is provided by the government in both countries, however patients who are willing to pay extra can opt for private clinics to avoid the long lines at public clinics. It was only in contrast with the Costa Rican and Peruvian system that I noticed the faults in the U.S. system. The first is the accessibility and cost of ambulance transport. The abundance of public rescue squads allows the public to call 911 and experience relatively short waiting times. It also offers a free ride, for those lacking transportation. The accessibility and free transport are, in part, responsible to the large call volume that EMS deal with in the U.S. These features of EMS are possible because of programs like the HealthCare Alliance in DC, which helps patients without insurance or Medicaid pay for healthcare (DC Fire and EMS Department 2017).

B. Introduction to the Community: Safety Net Coalition and IIHHS

My experiences in EMT training and in Costa Rica and Peru led me to reflect on ways to improve emergency healthcare. In order to make the contacts in the community I was referred to by an Associate Dean at James Madison University, Dr. Rhonda Zingraff. She raised my awareness of the Safety Net Coalition who were also looking at the need in the local community to find some way to ease the burden of frequent flyers on emergency medical services in Harrisonburg and Rockingham County. Knowing that I wanted to work within the community, I reached out to the (IIHHS), which is known for it's community involvement, and which Dr. Zingraff directs. I learned there was a significant problem in healthcare when it came to emergency medicine. Within the community, there are many factors that influence the flow of patients from their initial 911 call up to their treatment and release. The factors are all separate entities that are not in communication on a daily, or even weekly basis. However they are all directly influencing each other. The one current strategy in place that is aimed to increase communication between stakeholders in the community is the Safety Net Coalition.

III. Investigative Methods

A. Introduction:

This study of emergency services was conducted based on interviews of several healthcare providers and secondary research of related documents. This study sought to investigate how the local situation might be improved by best practices from other jurisdictions. A secondary goal was to integrate insight gained from clinical internships in Costa Rica and Peru into recommendations found through this research. Overall, the thesis research entailed a mixed-

methods approach, rooted in scripted interviews of key personnel, careful review of relevant program descriptions, regulations, manuals, and protocols for responding to 911 calls. The research is primarily a qualitative study, based on interviews and documents, with quantitative data relating to emergency services response times, capacity, and costs added to supplement and improve the qualitative study. This mixed method approach will provide “added value and deeper, wider, and fuller or more complex answers to the research question” than a qualitative study alone would provide. (Hesse-Biber, 415 - 18)

B. Interviews and Meetings:

Information was gathered through 3 phone interviews and 2 email interviews. Reaching out to set up interviews was accomplished by developing a list of potential key personnel based on initial discussions with my advisor, supplemented by additional individuals recommended to me. All interviews were arranged via phone-calls and e-mail. Finally, I gained information from both conference meetings within the community and interviews with members in and outside of the community.

C. Document Reviews:

To supplement the interviews, I conducted reviews of key documentation; including EMS response regulations, protocols for call centers, and referral policies. These documents were invaluable in identifying choke points in the system and ways that it can become overwhelmed. The referenced documents can be found in Appendix II in order and include:

- CSP admissions protocol HPR 1
- Blueprint for Community Paramedicine Program: Specific to South Carolina

- Community Paramedicine: A Promising Model for Integrating Emergency and Primary Care
- Analysis of complex care in Massachusetts
- Caring for High-Need, High-Cost Patients: What Makes A Successful Care Management Program
- Moorehead County Taxi Voucher Outline
- King County Strategic Initiative
- Voucher Program Summary: King County Emergency Medical Services Division
- Project Summary Sentara Halifax: Care Coordination in the Emergency Department with EMS Organizations as Partners
- CSB: HPR I Regional Admissions
- Statistical Reasons of 911 abuse: Morehead
- Community Paramedics in Ann Arbor, Michigan
- Morehead City Fire & EMS protocol flowchart
- The KC Voucher Template

IV. Summary of Findings

A. Within Harrisonburg and Surrounding Communities

The SRMH Emergency Department handles injuries and illnesses of varying severity. Whether arriving by ambulance or other means, patients will first report to the triage desk to be assessed by a Registered Nurse (RN). Patients with critical health issues are immediately directed to a treatment room. Alternatively, those with minor injuries or illnesses are directed to the Fast Track area, if a room is available. If there is no room available the patient is asked to

register while they are waiting. Patient registration provides the hospital computer system with information about previous hospital visits that the physician can access. The Fast Track area is open from 11am to 10:30pm and is staffed with emergency nurses and physicians. Fast track patients experience the same process, but in a shorter time due to the nature of their condition. ED Fast Track criteria include minor lacerations, colds, sprains, ear pain, insect bites, rashes, toothache, and sore throats (Emergency Services at Sentara RMH Medical Center 2017).

The director of Emergency services at SRMH, reported that the ED sees between 30-35 squad transports per day, from Harrisonburg, Weyers Cave, Grottoes, Elkton, and Rockingham, Page, Shenandoah, and Augusta Counties. He estimated that there are 4-5 regular ED patients per-day and 1-3 ambulance transports per-day who would benefit from a community paramedicine program. (Almarode 2017). Given the large area that SRMH services, and the small volume of estimated target patients, he thinks it would be extremely difficult for community paramedics to detect and respond with precision to the 911 callers who would benefit from their presence.

For 911 calls when there is an emergency that also threatens public safety, it is law enforcement's job to take over. Arriving on the scene, the law enforcement officers face decisions that could bring up the need for health and/or mental health expertise if that is what the patient really needs. For instance, law enforcement could decide to direct the patient to services they need, other than emergency transport to the emergency department. A local resource that can meet many of these needs is the Harrisonburg-Rockingham Community Services Board (CSB). CSB is a community-based public provider of mental health, substance abuse and developmental disability services which has provided the area with two crucial programs: The

Crisis Intervention Team and The Cross Systems Mapping Team. Ellen Harrison, the executive director of the CSB, says that CSB currently runs a 40 hour a week (Monday through Friday from 4pm-12pm) assessment site center in the emergency department of SRMH (2017). This is geared towards patients with a mental health crisis who have been determined to be a danger to themselves or the public. In cases like these, emergency custody orders (ECOs) can be issued by law enforcement, or requested by family, which allows the patient to be taken into custody against his or her will if necessary. When law enforcement acts on an ECO, the CSB is notified and the patient is taken to the ED assessment site where mental health clinicians are stationed to perform pre-assessment scans for health concerns. Additionally, other law enforcement officers take custody of the patient allowing the officer that brought in the patient to return to other duties on the street. Once in the ED, the ECO patients are directed through a different system than the typical patient who comes through the emergency room. This allows for quicker assessments for ECO patients and less overall waiting time for ED patients in general. There are records and case management protocols in place for patients that are detained and brought into the ED under ECOs, and discharges vary based on treatment needs. Only some patients are destined to a facility for treatment needs. Although there are records kept, they are not currently being used to monitor patients and identify frequent flyers. (Cross Systems Mapping Program Narrative).

The Crisis Intervention Team (CIT) in the city of Winchester specifically focuses on persons with mental illness through involvement of trained law enforcement officers. This program was launched through a partnership between the Winchester Police Department and the Northwestern Community Services Board (NWCSB). The CIT includes trained law enforcement officers (LEO's) and the NWCSB CIT case manager who makes visits in the community based

on weekly police reports of incidents involving persons with mental health issues as well as recent patients with ECOs. The team dedicates two days a week to making follow-up visits to check on continuing health and mental health needs in the community. They also focus on building a rapport with these patients. The partnership's objective is the "same as the CIT objective: keeping individuals out of jail, out of the hospital, connected to community resources and services and ultimately keeping everyone safe" (Virginia Association of Community Services Boards 2016).

Cross Systems Mapping is an approach to community health that is continuously developed by a group of community stakeholders. They hold facilitated discussions that focus on how the entire system of care operates, not just individual services in isolation of each other. Cross Systems Mapping focuses specifically on how the criminal justice and mental health services interact in order to get people the services that they need at the time they need them, rather than simply allow them to face criminal proceedings (Harrison 2016).

B. Findings Throughout the Country

There are several programs throughout the country which seek to address the problem of frequent flyers overburdening the resources of in the given localities. While some of these are just pilot programs, others have met with significant success and are leading the way for wider adoption. The types of programs in existence throughout the country include community paramedics that respond to 911 calls, community paramedics that make community visits

independent of 911 calls, taxi voucher programs, and alternative clinic/ Medicaid models. This section outlines eleven programs found throughout the country: Each one has varied amounts of success, duration of existence, or information available.

1. The Community Paramedics Program in Michigan
2. HOME team in California
3. Mobile Healthcare Program in Dallas
4. Community Paramedic Program in Minnesota
5. REMSA community paramedics program in Nevada
6. The Camden Coalition of Healthcare Providers
7. The Clinic program in Boston Massachusetts
8. The University of Colorado Internship Program
9. The MedStar Community Health Program in Texas
10. The Taxi Voucher Program in North Carolina
11. The Taxi Voucher program in Washington State

1. The Community Paramedics (CP) program in Ann Arbor, Michigan involves paramedics with advanced training. This training includes six months of assessment skills and clinical rotations in non-emergency settings. The Ann Arbor program is explained in “Community Paramedicine Programs Expand in Michigan”. In Ann Arbor, the dispatch center will send a CP if, according to their call protocol, they recognize a 911 call entails no serious illness, emergency or life threatening symptoms. The CP’s, under the emergency department medical director’s supervision, will arrive at the scene and then determine whether the patient has an existing primary care physician, and if not, they refer one. The purpose of these referrals

is to increase public knowledge of the correct resources for non-emergency situations and decrease the number of calls to 911(2015). While on site, the CPs can provide primary care as an alternative to ambulance transport, and are even able to establish video communications with a physician based in the emergency department, to give the patient an opportunity to ask questions that a paramedic might not be able to answer (Journal of Emergency Medical Services 2015).

2. In San Francisco, the Homeless Outreach and Medical Emergency (HOME) team is a community paramedic program that runs independently of 911 calls by making daily visits to high risk and high cost patients. This program runs on a yearly \$150,000 budget allotted by the San Francisco fire department (SFFD). The HOME team consists of SFFD veterans who have been fully trained in clinical awareness, psychosocial assessments, motivational techniques, clinical psychology, substance abuse treatment, gerontology, and enacting psychiatric holds (Fire Department Homeless Outreach). SFFD hasn't published how long this training takes except to state that the EMS veterans assigned to the HOME team have the training already by that point in their careers. The program began in 2009 when the city faced higher 911 call demand by deciding to spend money on starting HOME team with fire department funds instead of adding three new ambulances to the force. The new deployment, completed in July 2009, has benefited the department in flexibility of scheduling, increased efficiency, and improved response times, creating a more mobile response force to cover the city and county of San Francisco (San Francisco Fire Department). The success of the HOME team has allowed for continued funding from the money it saves EMS.

3. The Dallas Mobile Healthcare program also aims at community visits that are proactive, rather than responding to 911 calls. The Mobile Healthcare program in Dallas - the largest city in which a CP program has been tried – consists of six paramedics who make frequent visits to frequent flyers to treat needs, teach self-care, and educate patients on proper 911 use. The frequent flyers are identified by Dallas Fire-Rescue and local hospitals, based on 911 calls. The program, started in 2013, visited 73 patients in the first year, and had 32 patients enrolled in 2016. The program, showing success in only a few years, facilitates rehabilitation by allowing the patients to graduate once they no longer need regular medical assistance (Hallman 2015).

4. Although the previously described two programs are funded by fire-rescue organizations, funding for CP programs can also come externally. An example, is the program in Minnesota, where the legislature passed a bill in 2011 to establish reimbursement for CP activities through the state's Medicaid program. This required the blessing of the federal Centers for Medicare & Medicaid Services, as well as 19 drafts of the legislation to get it right. Minnesota first developed a pilot program by looking at the unmet healthcare needs in rural areas of the state. Funding was eventually awarded from the state Office of Rural Health and Primary Care. The CP activities that are covered by the funding include mental health assessments, immunizations and vaccinations, chronic disease monitoring and education, collection of lab specimens, medication compliance checks, and hospital discharge follow up care. Although not specified, minor medical procedures approved by the ambulance service medical director are also covered (Minnesota Department of Human Services 2014). All CP work is under the ambulance service medical director's supervision, or in compliance with orders given by primary

care providers. The ambulance service medical director bills Medicaid for any services delivered. (Erich 2013)

5. Another community that took advantage of outside funds, Medicare in this instance, was the Regional Emergency Medical Services Authority (REMSA) Community Paramedicine Program in Reno, Nevada. The Centers for Medicare and Medicaid Services (CMS), which is the agency that pays for all Medicare claims in the US, awarded \$9 million to study the healthcare cost-saving impact of the community paramedics program implemented by REMSA and the University of Nevada, Reno. The community paramedics perform three roles within the clinical scope of practice for a Nevada licensed paramedic: post-hospital discharge patient follow up, episodic evaluation visits, and hospital intervention. Post-hospital discharge follow-ups are either in-home or phone check-ins that decrease hospital readmission rates by promoting patients' adherence to physician treatment plans through enrolling and monitoring the patients for up to 30 days. Episodic evaluation visits are conducted in the patient's home within four hours of a request. These episodic visits provide referrals to primary care physicians or to other healthcare providers. Sending patients to non-emergency services for healthcare needs produces cost savings, especially when there are limited emergency service resources which are needed elsewhere. This process also reduces emergency transportation when it is not optimal in light of the patient's condition, (i.e. there is no need for life support or immediate medical attention during transport). Hospital interventions occur after patients who make frequent 911 calls or ED visits are identified and assessed (Community Benefit Report 2012). Intervening at this time assists patients in accessing the right care or service and includes a resource plan to resolve each patient's recognized but as yet unmet health care, mental health and social service needs. This

program also helps to improve the referring health provider's knowledge of the patient's medication usage and health routines so that the provider will have accurate and timely warning signs of worsening conditions. Overall, chronic illness exacerbations, unplanned hospital readmission, and unnecessary use of emergency services can be avoided (Regional Emergency Medical Services Authority Community Health Programs 2017). The specific features of this program as listed in "Vital Services: REMSAS report to the community" include:

1. Patients' initial visit includes assessment of in-home environment and identification of need for and referral to in-home support services, community resources and assistance with coordination of follow-up appointments as needed.
2. During in-home visits, community paramedics reinforce healthcare provider discharge instructions and treatment plans, provide education specific to each patient's health literacy level, provide medication reconciliation and reminders of follow-up appointments.
3. Services include monitoring and trending of vital signs, weight and medications; timely communication of abnormal findings to the referring provider; and identification and documentation of recommended versus actual medication usage.
4. Specialized protocols including: congestive heart failure, COPD, post-myocardial infarction, and post-cardiac surgery, among others
5. In-home care includes protocol-driven, in-home medical procedures, including, but not limited to, IV diuresis and hydration with follow up lab work, nebulizer with medication delivery and 12-lead EKG with interpretation and transmission.
6. Point of care lab work (including BMP, H&H, blood glucose, blood alcohol, clean catch UA, and INR) and home blood draws are delivered to local labs with results made available to the patient's care team for timely follow-up.
7. Patients are provided with a direct phone number in order to access community paramedics 24/7 for questions or concerns during the enrollment period.

8. REMSA's medical director oversees a rigorous clinical quality assurance program that includes specialized training, regular chart audits and ongoing clinical reviews (Regional Emergency Medical Services Authority Community Health Programs 2017, p. 2).

6. The program in Camden New Jersey was pioneered by Jeffrey Brenner, an MD/PhD from the New Jersey School of Medicine and Dentistry. Brenner joined a team with the Camden police department where he created a database for all three hospitals in Camden. This work led to his discovery of the current wasteful disorganized system (Gawande 2011). According to the article "A Revolutionary Approach to Improving Health Care Delivery," this health information exchange database showed that nearly half of the city's 77,000 residents were visiting an ED or hospital annually for minor conditions such as head colds, ear infections, and sore throats. It also showed that 20% of the patients accounted for 90% of the hospital costs. Brenner formed an organization - the Camden Coalition of Healthcare Providers (CCHP) - aimed at care of "super utilizers" (i.e. those in the 20%) by implementing a care model aimed at increasing coordination of services. Through New Jersey Health Initiatives, the Robert Wood Johnson Foundation (RWJF) awarded Brenner's care model with two grants (Robert Wood Johnson Foundation 2014). The coalition implemented Link2Care, which enrolls highly utilizing patients while they are in the hospital and continues to help them after discharge by connecting them with primary care facilities. This program's goal is to help these patients receive services that are necessary to reduce their number of hospital visits. From 2012 to 2013 Link2Care identified 269 patients eligible for the intervention and assigned them to a care team, and of the eligible patients, 146 were enrolled. Since the launch to 2014, CCHP has helped get patients connected to primary care within 7 days of hospital discharge. This has led to a decrease in the time it takes for the initial primary care visit from 22 days to 8 days. The eighty patients that were enrolled at least six

months in Link2Care showed a 46% reduction in average hospital readmission within 6 months (Geisz 2014).

The program utilizes a database that identifies hospitalized patients with complicated medical social needs. It also utilizes a care management team that consists of a social worker, nurse, community health worker, and an AmeriCorps health volunteer. The team visits the patient in the hospital, reviews prescribed medications, and consults with doctors and nurses to plan discharge. The team members also visit the patients at home immediately following discharge to provide ongoing support for up to nine months. This support includes connecting the patient to a primary care doctor, accompanying him or her to appointments, and addressing any needed social services. The overall goal is to give patients the ability to manage their health independently. While the model's main goal was to improve care, cost savings were seen in the drastic reduction in hospital visits. The first 36 patients involved averaged a total of 62 ER visits before the intervention, and only 37 visits after the intervention. Reduction in visits resulted in a decrease in expenses from \$1.2 million to only \$500,000. These savings reduced federal and state governments' Medicaid spending, and hospital charity care costs (Robert Wood Johnson Foundation 2014).

7. A program in Boston, Massachusetts sought to relieve the burden on the healthcare system by improving long-term coordination of care. Patients in the program were assigned a nurse whose sole job was to improve care by attending to the patients in-between physician visits. For example, the nurses make monitoring phone calls to recognize problems as soon as they occurred. The funding for this program came from the health-care-reform law in 2006 that

offered medical institutions an extra monthly payment to finance the coordination of care for chronically expensive beneficiaries. The reform offered monthly payments to support salaries and resources. Furthermore, incentives were created such that if the total cost were reduced more than 5% compared to a matched set of control patients, then the institution could keep part of the savings. If the cost failed to reflect that decline, the institutions were required to return the monthly payments. The initial cost to start these programs is an investment in the potential for significant cost savings. For example, in this community, 19 primary care practices in the area calculated that there were 2,600 high cost patients associated with \$60 million in Medicare spending. (Gawande 2011)

8. In the article “Student Hot Spotters from Emergency Care to Community Service”, Mark Couch explains an internship program designed by an emergency medicine physician at the University of Colorado. The program consisted of around 20 undergraduates who became EMT certified while in school. These EMT’s became experienced in emergency medicine and were available in shifts 24/7 in the ED to meet the health needs of more than 3,500 patients by conducting follow-up care. Specifically, Roberta Capp, MD, MPH explained that they “conducted a health screening in which they asked patients about diet, insurance, and their primary care provider. They looked up on the Medicaid website to see whether patients had active Medicaid coverage, whether they were part of the Accountable Care Collaborative program or not and then, depending on their answers, the health screening tool that we developed would tell them what to do. If the person said they went hungry for a number of days in a month, they would provide them with food pantry services.” The program used “hot spotters” to identify

through the screening tool issues to be addressed. Capp further explained about patients answering questions in the screening tool: “If they said homelessness, the Hot Spotter would connect them with homeless resources. If they said no primary care provider, we would find them a primary care provider and then get them that appointment.” Student interns were used as Hot Spotters. The students provided the program with the staffing it needed while, in return, the program was able to provide the students with valuable experience. The students put together a list of primary care clinics that took patients with Medicaid and no other insurance. With that list, they were able to create an online map that could be used to find clinics for patients. The greatest benefit of the student Hot Spotters program was that it offered a model that could be easily adopted in other locations. Also, the development of the program teaches students to understand the community in a way that fosters an attitude of appreciating medicine and the needs of patients from their point of view (Couch).

9. MedStar, a private EMS provider in Fort Worth, Texas, serves around 900,000 people and has around 110,000 emergency calls per year. MedStar started a Community Health Program (CHP) in 2009 that focused on frequent EMS callers. The program started in reaction to a 12-month period during which just 21 patients accumulated 800 visits to the ED, generating \$1 million in ambulance and ED expenses. MedStar’s goal for CHP was to decrease “unnecessary 911 responses and EMS transports that strain an already-overloaded EMS system, and to reduce overall healthcare costs” (Kizer 2013, p. 15). CHP evolved and began using advanced practice paramedics who worked with congestive heart failure patients by providing home evaluation visits to educate patients, conducting assessments of the patients and their environments,

providing non-emergency access numbers for episodic care, and referring patients to their primary care physicians. CHP showed measurable results. For 23 patients enrolled in the CHP program during one 12-month period, it was determined that 44 hospital admissions were prevented, a 47% decrease compared with the patients who had to call 911 instead of getting a CHP visit. There was a resulting significant decrease of ambulance use as well. MedStar estimates that there was around \$16,000 worth of savings for each patient who was enrolled in CHP. Subsequently, MedStar altered their enrollment protocol in 2012, enrolling ten patients at risk for congestive heart failure. Within eight months there were no 30-day readmissions and only one cardiac-related ED visit. This resulted in approximately \$39,000 in savings. The end goal of this program was to establish patient's connection with the right resources, and provide continuous care while realizing cost savings (Agency for Healthcare Research and Quality 2012).

10. Morehead, NC, is one illustration of a community that developed a Taxi voucher program to address the burden that non-emergent callers placed on the 911 system. Taxi voucher programs have popped up across the US as pilot programs that offer non-critical patients alternative transportation. In Morehead, the city fire and rescue team is debuting a new taxi voucher service that will allow 911 callers to opt for taxi transport if they have non-life threatening conditions. The taxi voucher program in Moorhead is funded by the city through the reallocation of cost savings. The EMS coordinator explains that this service will be utilized only for individuals who meet a specific criteria of non-emergent and non-life threatening injuries or illnesses. The rules of this program will allow them one taxi voucher to the Carteret Health Care ED (Urban 2016). The growing need for programs like this stem from the number of patients

that have scheduled appointments at the hospital for prescription refills, but have no other means of transportation except an ambulance (Safety Net Representative 2017). In the article “North Carolina Fire and EMS Department Creates Taxi Program” the taxi voucher programs are identified as ideal for areas like Morehead in which 90% of its call volume from non-emergent type calls. For calls like this, there is a strict set of protocols that ensure the patient has no major lacerations, blood loss, chest pains, head injuries, etc. All these patients need is transportation, and not the immediate medical care on the way to the hospital that an ambulance would provide. (Journal of Emergency Medical Services 2016)

11. King County, WA adopted an expanded taxi voucher service program in 2012. Their taxi vouchers are funded by the Center for the Evaluation of Emergency Medical Services (CEEMS) which receives private, state, and federal funding. The EMS division works closely with the University of Washington to conduct research on the improvements of pre-hospital emergency services and treatment to ensure the continuation of funding. The funds granted by CEEMS are awarded to projects that review, evaluate and/or pilot system performance as well as opportunities for improvement. EMS agencies may apply to use funds for studies or pilots, as long as they include detailed performance measures and evaluation. The service in King county works identically to other models, except that depending on condition or needs, one can also be given a taxi voucher to health clinics, pharmacies, or mental health facilities -- not just to the hospital ED. The wider array of destinations allows for several improvements: more specialized care by sending patients to the facility that can best accommodate their needs, a decrease in the number of patients and waiting time in the ED, less time and cost for the ambulance squads, and better education within the community through the introduction of patients to the correct

resources. The "Division of Emergency Medical Services Annual Report for 2015" outlined the successful outcomes of this program. Recorded data from 2014 showed that 514 vouchers were issued by 20 participating agencies in the County, with vouchers issued for transportation to the ED, sobering centers, urgent cares, Seattle' downtown Emergency Services Center, and a variety of other clinics (Hayes 2015).

V. Recommendations and Conclusions

Stakeholders at the Safety Net Coalition agree that there is a “conundrum” of problems and each case is unique (2017). Through this research I have discovered many different community-based solutions to emergency healthcare issues, each designed with that specific community in mind. While none mimic Harrisonburg exactly, there are benefits and costs to each that can be instructive to Harrisonburg-Rockingham County. Potentially, an initiative could be adopted to create a program suited for Harrisonburg's needs from the best ideas of other programs across the country. The first step in the development in any type of program needs to be record keeping. Any community paramedic program, specialized clinic or taxi voucher service will only be able to work in collaboration with healthcare providers who are aware of and can keep a list of high-risk high-cost (HRHC) patients, and can track what services they require. Such a list would include name, address, living situation/conditions, language, level of healthcare knowledge, current medication, distance from hospital, clinic, or pharmacy, and history of past medical visits. The goal would be to build such a list into the structure for any program that

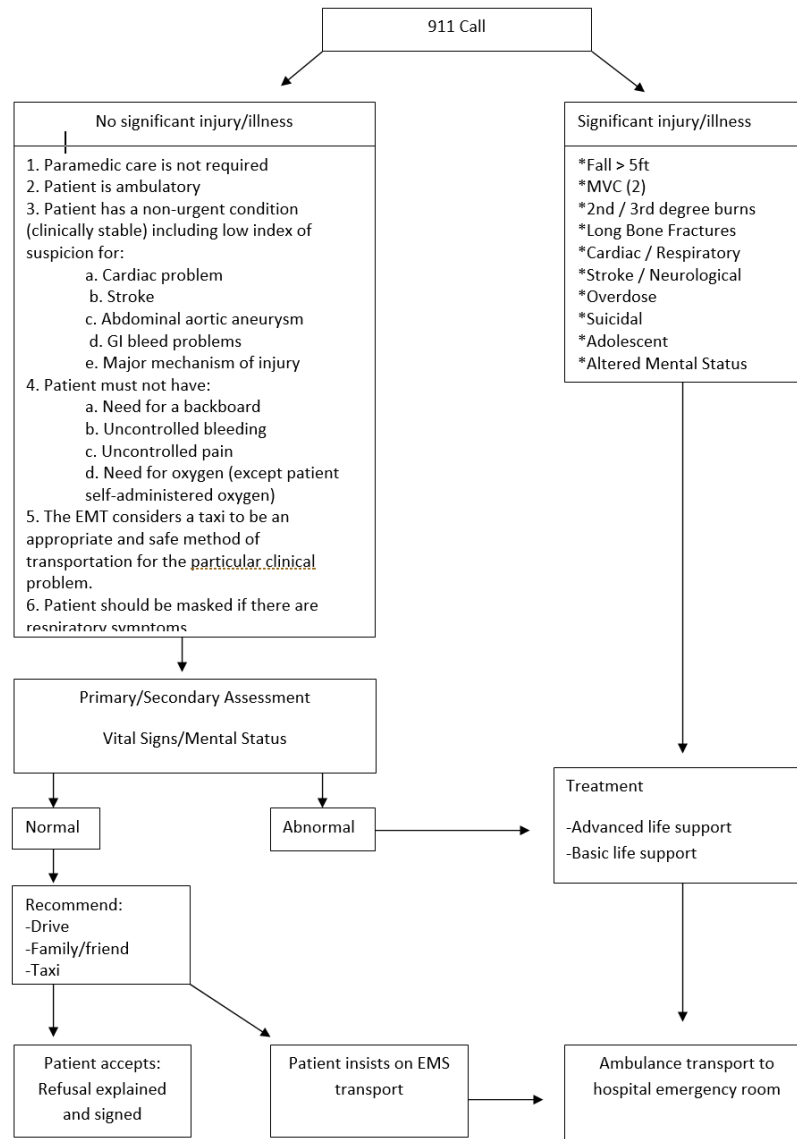
could incorporate more continuous care for chronic patients. Programs that have used similar lists include Dallas Mobile Healthcare and San Francisco Fire Department's HOME.

The next recommended step is to set up a calling system at every possible site (Sentara Rockingham Memorial Hospital, Harrisonburg Rescue Squad, and the Community Services Board) that allows administrators, healthcare personnel or police assigned to this initiative to check in with these HRHC patients. Current personnel in all these places are already fully occupied, so additional staffing would need to be found for these duties. Some additional funding would need to be found for these personnel. This approach could be something very similar to the model in Boston, Massachusetts that incorporated a nurse on staff responsible for follow-up or check-in calls to identified HRHC patients.

Furthermore, Harrisonburg Rescue Squad volunteers are already EMT trained, and would benefit from more patient exposure as they prepare to enter the healthcare field. The major limitation to most of these programs is simply the lack of funding to pay staff. Another option would be to use volunteers. I believe this protocol could be a very valuable addition to the Harrisonburg Rescue Squad because volunteers have plenty of free time while at the squad in-between calls. The Harrisonburg Rescue Squad, in fact, already has a pool of volunteers who are giving their time, and would be motivated to benefit the community as well as their futures by making these phone calls. However, it must be noted that it is very important to carefully monitor spending during any pilot phase of because grants, donations, or public funding for later phases will require evidence as to whether that the new methods are cutting cost and improving health.

I would also recommend initiating a taxi voucher system. The programs I researched were first successful by starting out with small steps in order to establish effectiveness and ease concerns voiced by critics. Taxi vouchers that allow pharmacy, clinic or mental health facility destinations are ideal. However, starting out with just the hospital as a destination is a great way to ease into this change. I also see Harrisonburg benefiting from a taxi voucher program because taxi voucher programs improve public knowledge of the proper emergency services.

As a suggested starting point, I have adapted information on taxi voucher programs into a flow chart that would potentially suit Harrisonburg's needs. The most important aspect of ruling out a potential liability issue is the detailed outline and strict adherence to what is considered a potential emergency. The flow chart is illustrated below and is based on existing taxi voucher programs in North Carolina and Washington state.



(Zulauf 2017)

Another recommendation would be to establish a Harrisonburg-Rockingham Community Paramedic program. Community paramedicine is, by a landslide, the most effective way that some communities have dealt with EMS problems. The complexity of these programs -- such as coordination between multiple agencies, cross-training, and sensitivity to specific needs of the community -- take time to implement, which is why I made the recommendations to first

improve record keeping, implement follow up calls, and create a taxi voucher service before moving on to a community paramedic program, which could include each of the earlier recommendations.

If a community paramedic program could be piloted, it would have a strong endorsement from Marcus Almarode, Director of Emergency Services, Sentara Rockingham Memorial Hospital Medical Center. He sees the greatest opportunity with serving Harrisonburg's population of frail elderly (Almarode 2017) According to Almarode, these patients might just need an extra dose of antibiotics and that would allow them to stay in their homes and avoid transport. These semi-emergencies that are treatable off site - such as urinary tract infections (if already tested and diagnosed), or medication delivery - could be handled by mid-level providers such as physician assistants or nurse practitioners who could consult the patient's on-call provider if some authorization is needed. Currently, 15-20 percent of ambulance transports per day to the emergency department are for these frail elderly "after on-site clinic hours" patients. By being prepared to treat these patients at their location instead of having to transport them, they will ultimately get treatment more quickly and in a more familiar environment (Almarode 2017).

If a Community Paramedic program could be developed in the future this project highlights the goals to follow would be those set out in the "Caring for High need High cost patients" document, following the format used in Massachusetts. This document focuses on a model that has as its main goal complex care management, and which focuses on the long term by carrying out four essential activities: 1) identifying and engaging patients who are at high risk for poor outcomes and unnecessary utilization; 2) performing comprehensive health assessments

to identify problems that, if addressed through effective interventions, will improve care and reduce the need for expensive services; 3) working closely with patients and their caregivers as well as primary care, specialty, behavioral health, and social service providers; and 4) rapidly and effectively responding to changes in patients' conditions to avoid use of unnecessary services, particularly emergency department visits or hospitalizations. (Hong 2014)

This primary care-integrated complex care management program is multifaceted because it takes circumstances, medical history, lifestyle, and education into account, leading to an approach to healthcare that keeps the patient's long term health in mind. All the different aspects that this program takes into account allow it to be adapted in different ways for different communities, and even within communities for the varying needs.

For example, the table below outlines different approaches including a payer operated, practice-operated, delivery system-operated, and an independent regional care management approach; each have different advantages and disadvantages that should be considered based on the context of Harrisonburg.

Exhibit 1. Operational Control in CCM Programs: Advantages/Disadvantages of Different Approaches

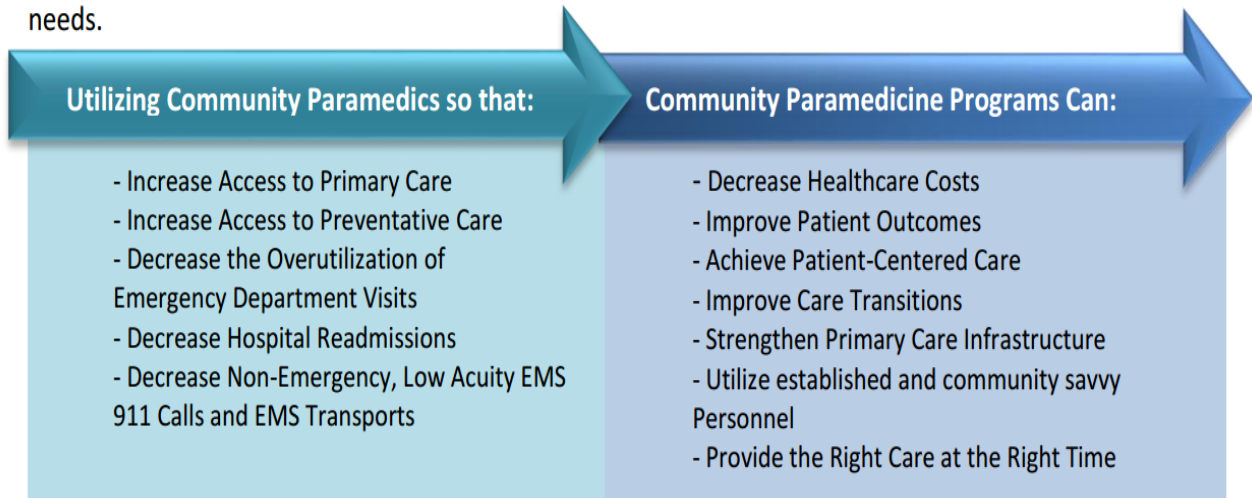
Operational Control Type	Advantages	Disadvantages
Payer-operated	<ul style="list-style-type: none"> • Greater flexibility • Access to financial resources 	<ul style="list-style-type: none"> • Greater challenges engaging patients and providers • Limit use of CCM resources to their members
Practice-operated	<ul style="list-style-type: none"> • Greater opportunity for primary care integration 	<ul style="list-style-type: none"> • Care managers pulled from care management tasks to cover day-to-day clinic duties
Delivery system-operated	<ul style="list-style-type: none"> • Central oversight of care management activities • Economies of scale—formal training opportunities, peer-learning, improved data integration, and greater connectivity with providers/care managers across the delivery system 	<ul style="list-style-type: none"> • May limit use of CCM resources to specific members for which the delivery system is at risk
Independent Regional Care Management Organization	<ul style="list-style-type: none"> • Allow implementation in places where a small number of complex patients make it difficult to embed CCM teams into practices • Economies of scale—formal training opportunities, peer-learning, improved data integration, and quality improvement capacity 	<ul style="list-style-type: none"> • Greater challenges engaging patients and providers • Limit use of CCM resources to their members

(Hong, Clemens S., Allison L. Siegel, and Timothy G. Ferris, 2014, p. 3)

Overall a community paramedic program should establish the following goals with the specific needs of the community in mind. Primary care facilities should be assessed and documented so that care providers have the knowledge of existing facilities that would be most accessible to patients.

Identifying Needs in the Community

Identifying needs within a targeted community can be an intimidating task; however, breaking down the properties of Community Paramedicine will help to give some direction in identifying community specific needs.



(South Carolina Office of Rural Health, 2014, p. 16)

Additionally, a report created for the California HealthCare Foundation, outlines a few important principles that define the goals of a CP program. They are shown on the following page and are an important consideration when defining the role of a CP. The biggest aspect of a CP is that they do not exist to compete with other health care providers. Their main role is to assist, not overlap with, other health care services in order to provide more continuous care.

*“EMS should be doing more in health care;
we should be part of the solution.”*

— EMS PROVIDER

A number of principles underlie the structure and goals of CP programs. These principles are briefly described below:

- Community paramedicine programs are *not intended to duplicate or compete with other community health care services*, but rather are intended to fill identified gaps in care working in collaboration and partnership with existing health care providers.
- Community paramedics would be licensed, as are all paramedics in California. *They would not be independent practitioners*, but rather would work under approved protocols and a physician's direction (i.e., under “medical control”).
- Community paramedics would *undergo additional education and training*, the exact requirements of which would depend, in part, on the objectives and scope of the CP program. At least one standardized curriculum for community paramedics is publicly available.²³ Communities also could tailor additional education to address local needs. Training would occur in the various settings in which community paramedics would potentially work with collaborating providers, including primary care clinics, physician offices, nursing homes and other long term care facilities, substance abuse treatment programs, and mental health facilities, among others.
- It is expected that the *additional training will provide community paramedics with enhanced decision-making skills to prepare them for expanded clinical decision-making responsibilities*. When they are providing services in the community, they would be supported through protocols, and direct online (telephone or video) medical control would be available.

- It is likely that *only a small percentage of more experienced paramedics would become community paramedics*.
- Medical control for community paramedics may involve other types of physicians (e.g., general internists, family practitioners, pediatricians, geriatricians) in addition to emergency medicine physicians, depending on the type of services being provided in the CP program.
- The goal of CP programs would be to *get the patient to the right care, delivered by the right provider, at the right time, resulting in the best outcomes and most efficient use of the region's health care resources*, as specified in the Affordable Care Act.

Components of Community Paramedicine Programs

A variety of services and activities have been included in CP programs in other states and countries. Six services have been selected for this report, and these can be divided between prehospital and post-hospital or community health services (see Figure 4). Each is described in detail in Figures 5–10.

FIGURE 4. Potential Community Paramedicine Services

Prehospital Services

- Transport patients with specified conditions not needing emergency care to alternate, non-emergency department locations.
- After assessing and treating as needed, determine whether it is appropriate to refer or release an individual at the scene of an emergency response rather than transporting them to a hospital emergency department.
- Address the needs of frequent 911 callers or frequent visitors to emergency departments by helping them access primary care and other social services.

Post-Hospital or Community Health Services

- Provide follow-up care for persons recently discharged from the hospital and at increased risk of a return visit to the emergency department or readmission to the hospital.
- Provide support for persons with diabetes, asthma, congestive heart failure, or multiple chronic conditions.
- Partner with community health workers and primary care providers in underserved areas to provide preventive care.

(Kizer, Kenneth W., Karen Shore, and Aimee Moulin, 2013, p. 8)

Lastly, in South Carolina's Blueprint for Community Paramedicine Programs, a set of questions is included to help communities determine their specific healthcare environment. The example below provides a middle column with the link or place that helped them obtain information. The questions, with examples on how they were answered in South Carolina, and the rationale for these questions are:

Access to Care

Question	Resource	Rationale
How many hospitals are in the county that your CP program wants to serve? Is the hospital(s) a non-profit, for-profit, or governmental hospital?	<ul style="list-style-type: none"> South Carolina Health Data http://www.schealthdata.org/ Your local hospital, if it is a non-profit, will have a Hospital Community Benefit Report that may help your Community Paramedicine program to identify its community needs. 	<ul style="list-style-type: none"> Understanding your community's access to care. Identifying your community's hospital resources. Identifying the needs of your community. Using your local hospital data/quality reports will help you get a greater understanding of your community's healthcare environment. Assisting partnership collaboration.
What EMS agencies serve the county? Are they hospital based, county owned, rescue squads, or privately managed EMS providers?	<ul style="list-style-type: none"> South Carolina Department of Health and Environmental Control- Division of Emergency Medical Services & Trauma (www.scdhec.gov/health/ems) Credentialing Information System: https://apps.emspic.org/CIS/Public 	<ul style="list-style-type: none"> Identifying your EMS providers. Assisting partnership collaboration.
How many Primary Care Physicians are in the county? How many Primary Care offices?	<ul style="list-style-type: none"> The South Carolina Health Professions Data Book at: http://officeforhealthcareworkforce.org/bigDocs/ohw_cdb2012.pdf SCORH Primary Care Needs Assessment 	<ul style="list-style-type: none"> Identifying your community's Primary care needs. Gathering data and facts to make your CP case.
Are there any Free Health Clinics? Federally Qualified Health Centers? Rural Health Clinics?	<ul style="list-style-type: none"> SC Free Clinics Association: http://www.scfreeclinics.org/ SC Primary Health Care Association: http://www.scphca.org/ SC Office of Rural Health: www.scorh.net 	<ul style="list-style-type: none"> Identifying points of contact and potential CP program referrals. Assisting partnership collaboration
Will you be serving a Medically Underserved Area or a Health Professional Shortage Area?	<ul style="list-style-type: none"> SC Primary Care Office: https://www.scdhec.gov/health/opc/hpsa.htm 	<ul style="list-style-type: none"> Gathering data and facts to make your CP case. Identifying your community's healthcare environment.

Emergency Department Visits

Question	Resource	Rationale
What is the Emergency Department utilization? What demographic is using the ED the most in the community?	<ul style="list-style-type: none"> SC Budget and Control Board: http://hd.ors.sc.gov/default.php 	<ul style="list-style-type: none"> Understanding your healthcare environment. Helping you make your CP case. Assisting partnership collaboration
What are the health disparities in the community? Do these disparities contribute to the emergency room visits?	<ul style="list-style-type: none"> County Health Rankings: http://www.countyhealthrankings.org/ 	<ul style="list-style-type: none"> Helping you define your Community Paramedicine program. Gathering data and facts to make your CP case. Identifying potential needs of the community.

Hospital Readmissions

Question	Resource	Rationale
What discharge diagnosis is the most likely to be readmitted within 30 days to the hospital in your Community?	<ul style="list-style-type: none"> Hospital Compare: http://www.medicare.gov/hospitalcompare/search.html myschospital.org Your local hospital's quality department will have this information. 	<ul style="list-style-type: none"> Understanding your community's healthcare environment. Identifying areas where the CP program would be beneficial to CP partners. Helping to tell your story and make your case.
Is chronic disease and poor management of chronic disease a contributor to the readmission?	<ul style="list-style-type: none"> County Health Rankings: http://www.countyhealthrankings.org/ South Carolina eHealth Medicaid Statistic: http://www.schealthviz.sc.edu/ SC DHEC Data & Reports: https://www.scdhec.gov/health/epidata/index.htm 	<ul style="list-style-type: none"> Identifying community needs and potential CP area of focus Understanding your community's healthcare environment.
What quality initiative is the hospital currently implementing to help reduce readmissions?	<ul style="list-style-type: none"> Contact your local hospital and discuss their current quality initiatives. Center for Medicare and Medicaid: www.cms.gov SC Medicaid: www.scdhhs.gov 	<ul style="list-style-type: none"> Identifying current or future initiatives that the CP program could participate in. Helping you to understand the current healthcare environment in your community. Identifying potential resources.

EMS 911 Calls and Transports

Question	Resource	Rationale
What are the annual total EMS calls for the county? What percentage of the 911 calls resulted in a transport to the Emergency Department? What percentage did not?	<ul style="list-style-type: none"> County 911 Center Agency PCRs 	<ul style="list-style-type: none"> Understanding the EMS agency. Helping to make your CP case.
What was the most common acuity of patient being transported? High-acuity or Low-acuity? Emergent or Non-Emergent?	<ul style="list-style-type: none"> County 911 Center Agency PCRs 	<ul style="list-style-type: none"> Identifying transportation statistics. Understanding EMS transportation load.

(South Carolina Office of Rural Health, 2014, pp. 16-17)

As programs begin it is essential to keep records for measuring the effectiveness of such programs. Several examples and guidelines used to create and carry out studies are provided here on the following pages:

ABOUT THIS STUDY

The aim of our study was to identify key operational attributes and best practices of successful primary care-integrated complex care management (PC-CCM) programs. We posed the following primary research questions: 1) What are the core operational attributes and best practices of successful programs? and 2) How are successful programs customized for specific populations or contexts?

We selected sites for potential inclusion in the study based on review of the peer-reviewed and grey literature and snowball sampling, starting with recommendations from an eight-member expert steering committee and involving study participants. Based on inclusion criteria approved by our study steering committee, we selected 20 total sites for inclusion in the study. The criteria were:

1. Focus on complex populations: PC-CCM programs must select a complex population that they deem to be at increased risk for poor health outcomes or high cost (based on any definition).
2. Aligned with primary care: close integration with existing primary care teams.
3. Comprehensive care management focus: focus on the whole person and multimorbidity, rather than a single disease process.
4. Existing data on performance indicating improved outcomes.
5. Currently in operation.

Each site received at least two email invitations to participate in the study. Once sites agreed to participate, they chose a representative site in their system and identified three key informants for interview (see below).

Study Design

We assessed each program using semistructured key-informant interviews and review of published manuscripts and program materials obtained from each of the sites. We performed at least three one-hour, semistructured interviews per site with the following key informants: 1) an executive leader involved in developing or supporting the PC-CCM program, 2) a program director responsible for managing program operation, and 3) a frontline care manager responsible for direct delivery of care to patients. We performed additional interviews, as necessary, to obtain further clarification and detail. We assessed six study domains through these semistructured interviews:

1. Program context and structure
2. Patient selection
3. CCM team structure
4. Scope of work
5. Hiring and training
6. Use of information technology

Program Outcomes

We obtained reports of outcomes from each site. Although some of these programs were evaluated with rigorous methods, not all of these reports were research studies or formal evaluations. As a result, we applied a simplified framework, based on the U.S. Preventive Task Force Methodology, to classify the level of evidence:

- Level I: Evidence obtained from at least one properly designed randomized controlled trial.
- Level II: Evidence obtained from well-designed, cohort case controlled trials, or controlled trials without randomization.
- Level III: Evidence obtained from multiple time series with or without the intervention or dramatic results in uncontrolled trials.

Twenty sites were selected for final inclusion in the study, and 18 sites completed the semistructured interviews. We reviewed program outcomes and ensured that each program met basic criteria for success, defined as positive findings in at least one quality domain and one cost or utilization domain. One site refused to participate and another site did not respond to multiple requests for interviews.

(Hong, Clemens S., Allison L. Siegel, and Timothy G. Ferris, 2014, p. 15)

In South Carolina, the Blueprint for Community Paramedicine Programs Especially for EMS Agencies outlines a checklist recommended for all communities to use to assess if a Community Paramedic Program is right for them in terms of resources and capabilities. The Checklist includes the following:

Community Paramedicine Checklist	Yes	No
Is there a hospital in the community that the CP program will be serving?	<input type="checkbox"/>	<input type="checkbox"/>
Is there adequate administrative time? Do you have enough staff to plan and administer a Program?	<input type="checkbox"/>	<input type="checkbox"/>
Is there a medical control champion?	<input type="checkbox"/>	<input type="checkbox"/>
Is there a program champion?	<input type="checkbox"/>	<input type="checkbox"/>
Is your organization mature enough?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have political opponents?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have competing healthcare entities?	<input type="checkbox"/>	<input type="checkbox"/>
Is there "extra capacity" in your system?	<input type="checkbox"/>	<input type="checkbox"/>
Are you struggling to fully staff your ambulances each shift?	<input type="checkbox"/>	<input type="checkbox"/>
Will you have to shut down an ambulance to staff a CP vehicle?	<input type="checkbox"/>	<input type="checkbox"/>
Are there opportunities for funding?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have the ability to put proper checks and balances in place to keep from harming patients?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have the resources in place internally, especially in your budget?	<input type="checkbox"/>	<input type="checkbox"/>

(South Carolina Office of Rural Health, 2014, p. 13)

This concludes suggestions based on the research of programs within the community. These specific tables and figures highlight some key aspects of developing a programs or study within a specific community. If there is a specific program, procedure, or topic that specifically sparked interest, more information can be found in the original documents in Appendix II.

Creative Honors Project Reflections:

Having the opportunity to work with members of the community in which JMU is such an integral part was a challenging yet valuable learning experience. JMU students provide the core of young volunteers for the Harrisonburg Rescue Squad. These JMU students make it possible for the all-volunteer squad in Harrisonburg to be one of the best in the nation (Safety Net Representative 2017) This project adds to a wide web of connections around community health programs that are sustained by so many JMU students who are so eager to contribute to this community in this manner. As a biotechnology major, this creative project allowed me to step outside the realm of typical small scale molecular or cellular lab research that is more commonly the lot of science majors, especially biotechnology.

My interests in biotechnology are derived from the growing industry of medical biotechnology and the increasing importance of biotechnology within the medical field. The option of the carrying out this creative project for honors allowed me to explore my interests in healthcare by working with members of the community while simultaneously discovering the functions and operations of the different parts of the emergency health care system. As a biotechnology major, I have been taught to analyze systems. The medical biotechnology course I took with Dr. Stockwell taught me to analyze the stocks and flows of stakeholders within the drug discovery pipeline. While the drug discovery pipeline is a smaller part of the overall health care system, I was able to use the techniques for identifying and analyzing stocks and flows of the system.

I discovered an interesting parallel to the systems analysis approach used in the medical biotechnology course with the systems approach that would be necessary to implement successfully a community paramedicine program. To identify the positive and negative impacts of the community system I had to first identify all the moving parts. Each person in the community with whom I spoke, and each of their organizations, had a different role in the emergency health care system, from those who had first contact with patients to transportation, to long-term case management. These are the stakeholders in the community healthcare system, and the stocks and flows of patients between and among them can be analyzed to identify where changes could be made to improve the overall efficiency of the system as a whole. Viewing the community through systems analysis helped me to correctly identify the important organizations and how the roles they carry out impact each other. After identifying the organizations, I was then able to see how patients flowed within the system, and at which points the flow was good or bad. The systems approach, although it may seem narrowly focused on people or organizations directly involved, actually requires a thoughtful holistic view because complete analysis requires consideration of indirect outside influences on not just the patients but the organizations. For example, background and education level indirectly affect patients decisions, and community attitudes and supervision can affect organizational operations. All factors, direct and indirect, must be weighed when analyzing other communities and when determining areas of improvement within our community.

The biggest challenge of completing a creative Honors Project was that the guidelines were undefined. To design this project, I had to carefully weigh my interests in healthcare, my major, needs of the community and the academic expectations and requirements of the Honors

College. Another challenge of this project was finding the right balance between community involvement for my own project agenda and learning and using my involvement to develop something that would be useful to the community. Designing this project meant the creation of something that did not exist before and that would point toward a way to concretely help the Harrisonburg community. The project required the collection of information from many different sources, therefore it involved different people with their differing perspectives. The community members contributing to the Safety Net Coalition and the betterment of the emergency care system were doing so in their free time. While this project was a priority to me, I had to realize that those interviewing and meeting with me had other things going on. In order to stay on track, I had to find times to meet and needed to be flexible in the context of demands on their time that have nothing to do with the university's schedule.

I have grown during this project in my communication and professional skills through interacting with the community. Working outside my major, within the community and with Dr. Zingraff taught me to think in an interdisciplinary fashion. While being mentored by Dr. Zingraff, I began to understand what it means to think like a sociologist by analyzing the community as a whole and by seeking information that would benefit people with responsibilities that are outside my personal experience. In biotechnology, I was taught to think of a situation in terms of a problem with one definite solution. As I continued my work with Dr. Zingraff I realized that there was no single settled solution for health problems within this community. The factors involved, including patients, resources, primary care, a range of health needs, community services, and transportation, affected each other. As a result, this project did not need one clear solution, but rather it needed to be a collection of information that could bring

many possible solutions closer together and give each member insight to the system as a whole, and to models from elsewhere, so that the different resources available in Harrisonburg could work more in collaboration with each other.

JMU is an integral part of Harrisonburg Rescue Squad and it is vital for the university to be involved in the community. Through this creative project, I was able to seek out professional development opportunities off of campus. I saw that connections to the community can give students an outlet for their desires to help. The JMU Honors College would greatly benefit from striving to expand those connections, and make them available to students as they consider starting their own Honors theses.

I will leave the last word to a representative of the Safety Net Coalition:

“We have 140 super active volunteers. But it is an organization that never ages. I have been in EMS here 27 years and the average age remains 19, because of JMU. With 25% of the city of Harrisonburg being between the ages of 18 and 24, that’s where the rescue squad can build from. So as long as they are able to pull from that, they will be able to continue” (Safety Net Representative 2017).

VI. Appendix I: Transcriptions

A. Morehead Taxi Voucher Interview

Question: Did you have to change your protocols for your EMS rescue squads in order for you to implement this program?

Morehead: No we didn't change any protocols; it's just basically an avenue for alternative transport that we are going to start implementing on January 1st for calls that we respond to that don't necessarily need an ambulance to transport them to the hospital. For prescription refills, or back pain two years as a chronic pain condition. We only have one hospital here in our area. We only have basically one place that we respond to. So there are instances where we will get – we will pick them up patients where they utilize the 911 system and they already have direct admit orders to the hospital. Things like that are what we are trying to corner with this market so that our fire and EMS services are available to the true emergency caller out there.

Question: Do you have a large homeless population that would use this service?

Morehead: We don't have a huge homeless population. Typically, the homeless we do have, they don't want to go to the hospital. What happens is citizens will see them sitting on the side of the road, or law enforcement sees them and goes to them and law enforcement doesn't want them on the street so they contact us and we respond. And they don't even want to go to the hospital. There could be situations where a voucher may be given for those types of individuals, but it isn't specific to the category of the person but it is specific to what the issue is. Unfortunately, we cannot respond, or we can't transport patients to Urgent Care facilities like that, that is just not what our system is set up for. And a lot of times these patients could be ultimately be treated quicker and more appropriately at an Urgent Care facility versus going to the Emergency Room. So, this is just kind of a step in the direction of maybe one day being able to transition that kind of patient into an Urgent Care facility-type setup. Anything that would be eligible for a voucher would be a minor complaint so anything reference cardiac, respiratory, neurological problems, anything like that they aren't even eligible for a program.

Question: Do you train your EMTs to recognize what they would classify as emergency or non-emergency? Or is there a written protocol that this patient has these symptoms or these other symptoms, and deciding that way?

Morehead: So we have, we are an advanced level provider and so we have Paramedic Level ambulances, so any time we respond we have at least one paramedic, sometimes two paramedics that are on the truck. So, it starts off as any call would, we still get the activation, we respond to the call, once we get on scene, we do an assessment like we would do with any type call. Based on the findings of the assessment we would then decide whether the patient would be eligible for a voucher for a taxi to transport them to the ER or if it is a circumstance where our medics have to intervene and treat them while in transit to the hospital.

Unfortunately, the ones that are abusing the system, they know how to say the right words, the right key indicators so that dispatch relays that information because they don't know, and we have a large volume of calls, the same address, the same person going to the hospital over and over and over again. The whole system across the board is strained. It isn't just EMS, but it's our receiving facility as well. Basically, in talking about this program – we have been working on it for a year and a half, just getting our facts together and the Medical Director on board and our Town Council. We've had some in-service training with our medics, with all our staff, not just our medics, to relay to them what the program is for to keep our units available. Here in Morehead, we are Fire and EMS. Our paramedics are dual-service. They are paramedics and they are firefighters. Being able to keep those resources available for a structure fire, and as both you and I know, when they are tied up with a patient that fits the criteria of chronic pain or something like that, and there is somebody across the street having a heart attack, you can't just abandon that patient and take care of the one that truly needs it. So, this gives out providers the ability to start having that conversation with the patients. Our ultimate goal is to start changing behavior, educating them what our services are for.

Question: For patients that have serious conditions, but not life-threatening, is there a liability issue if they just take a taxi to an Urgent Care Center rather than a Hospital, or are you not allowed to suggest that?

Morehead: Well, if it is an acute issue, illness, injury, or ailment that needs medical intervention right now, then obviously this isn't something that we are even going to consider talking to them about. In our county, or the state, actually, we have a refusal policy. If we respond to a scene and the ultimately patient decides that they don't want to ride with us to the hospital, then you can't force them, otherwise that would be kidnapping. There is a document that we have to sign, which is a patient refusal; it just states that they are refusing our transportation to the hospital. So, the individuals that would be eligible for a voucher based on our provider's clinical assessment, then a refusal would be signed. Saying that, if anything changes, call us back. In the interim, we are not taking you to the hospital. Here is your cab voucher. And, like I said, there is liability with any call that we go on. There is liability with any refusal that we do on patients. Hopefully, we try to look on the bright side of things. We are trying to take care of our citizens, but utilizing the right resources for the citizens. If that makes sense? And then the vouchers, there are specific criteria for them as well. They are date and time stamped so the citizen has only two hours to use that. And it is a one-way trip to the ER. So, they can't use it to go, down town, can't use the voucher to go to Wal-Mart or anything like that. We have met with the cab companies, we've all come together, and we are all on the same page. It's a to-hour time from when they get it to until they use it.

Question: Would it be a possibility to try and work out a system where you advise them that they need to go to the hospital or it can also be a one-way trip to the Urgent Care or other facility outside the hospital?

Morehead: Potentially. Yes. Just right now, the level that our Medical Director feels comfortable with, we are starting with the ER. And should we get success with the program and it is benefiting everybody and we are keeping us available for the true emergencies, but still offering that definitive transport for them to the Emergency Room, he is talking about expanding that through the county and potentially even looking at maybe going to Urgent Care facilities instead of going and tying up the ER.

A. CSB Interview

CSB: We are about 250 staff; we provide substance abuse, mental health, and developmental disability services. Basically, across the lifespan. So, any child zero to 2, all the way up to death. So, we have lots of services that are clinic-based, we also have crisis stabilization, that is basically in-patient, and we provide services actually in the community, whether it is case-management, or skill building. We are in the jails and then law enforcement is actively involved with us in terms of mental health services because there are many laws in the Code of Virginia that really dictate that when someone becomes a danger to themselves or to others, unable to care for yourself, if you reach a certain threshold then your human rights are no longer in working order and we can hospitalize someone against their will for, say, psychiatric treatment.

There is the crisis intervention team training, which is 40 hours of training for law enforcement that is provided the community and mental health experts in law enforcement – who are already trained – so that law enforcement has a different skill set in working with people with mental health or developmental disabilities, who are also interacting with law enforcement in the community. The Cross System Mapping, which you are referring to, has to do with a facilitated discussion between community stakeholders that looks at the entire system of care, how the criminal justice system and mental health system interact, and get people to the services that they need at the time that they need them.

Questioner: Are there protocols that police follow so they can recognize when a person is having a mental health problem, or when they need medical attention? Are there police stationed in the ER for when patients come in to decide whether they need mental health care?

CSB: With the crisis intervention team training, that is 40 hours of training for law enforcement whether they are seasoned or not, whether or not they are new. They also get some mental health training as part of their continuing education that they are mandated to participate in, as many professionals are. So, that is not necessarily a protocol that I am aware of. We have a working relationship with law enforcement and the emergency custody order language in the Virginia Code allows for law enforcement to bring someone into the emergency department if they suspect that someone has a mental health crisis and needs a mental health screening by us. Now, community services boards are the only ones that can do the pre-screening. We are certified pre-screeners trained to be able to assess whether or not someone meets the criteria for a temporary detention order. So, law enforcement will be called out by the emergency communications center, which is their 911 system, will go out to see any number of things in the community, whether is concerning behavior it is a domestic dispute, whatever. If they run into someone that has behavior that is concerning to them, they can do what is called a paperless ECO, or paperless emergency custody order, bring them into the emergency department. Then we, being the emergency services board meet that officer there. We have eight hours to do the assessment and find an in-patient hospital bed if that's what's called for. Or we can recommend release or we can recommend voluntary in-patient, if the person is willing to go voluntarily. For 40 hours of any work week, being Monday through Friday 4 pm to 12 pm, we have a secure assessment site center at the Emergency Department where there is a mental health clinician and a law enforcement officer stationed in the Emergency Department, so that if a street officer picks someone up, either under a paperless ECO or a paper ECO because the family has gone to a magistrate to have them picked up, the street officer can hand over, if all the parties are in agreement, to the officer stationed in the Emergency Department, then go back out on the

street. So instead of sitting in the ED for 8 hours they go back out on the street and to their thing. Then we do our screening. As long as someone is under an ECO they have to be in the custody of Law Enforcement. So, that is the piece you are thinking about in terms of we have someone in the ED. But it is Monday through Friday from 4 to 12, but it is when the volume is highest in terms of activity.

Questioner: Does law enforcement always respond when there is a 911 call?

CSB: Law Enforcement always responds when there is a 911 call. Then it is either up to them to decide whether or not there concerning behavior that needs further assessment by a mental health clinician, OR a family member can call the magistrate. The magistrate can issue an emergency custody order and the police can go to pick them up, if there is concerning behavior to pick them up specifically for an assessment. IF there is concerning behavior that reaches the threshold that the magistrate could issue the ECO.

Questioner: 911 and EMS workers are under a certain liability when it comes to 911 calls, and they are required to take these people into the hospital and pass on care. But, this is something the police officers could override if they see there is a mental health crisis?

CSB: Well, if a police officer is called out to the scene and they see there is a mental health crisis, then they have the ability and the latitude under the law to bring them into the emergency department for a further assessment, under the custody of law enforcement. We interact very little with the ambulance/medical side of it. All of the medical criteria need to be ruled out before they would say it's a mental health issue. If somebody calls with chest pain, they are not going to call us for an assessment.

If there is a reason to call us, then they may. But it is all voluntary. They are not in the custody of law enforcement. Not in the custody of the ambulance either, because they are now in the custody of the hospital. They're on a voluntary basis. Any time you are doing something medical, it is almost always on a voluntary basis.

Questioner: These people in mental health crisis, they are not allowed to refuse?

CSB: If it is an emergency custody order, No. People can come to the emergency department voluntarily and say, I am seeing things, or I am suicidal, or whatever is going on and that certainly is voluntary. OR, the police officer could bring them in under an emergency custody order. Custody implies "I have custody of you..." and then we could say, we could assess them and say, "it looks like you need hospitalization." And the person could say I am willing to go voluntarily, the emergency custody order expires, and they are allowed to go voluntarily and make any decisions they want to make about their treatment. There is only a small number of people in the whole grand scheme of life that need to be hospitalized against their will.

B. Safety Net Meeting

Topic: Can we work on as a group to improve the healthcare efficiency in the community? How can we redirect patients from EMS to more appropriate services? What are the challenges we face?

Member 1: There are two parts to this. Mobile Integrated Health care is one part. Depending on where you are, every state has its own rules. Wake County, NC, they work to visit patients with medical problems that we would deem frequent flyers. They work with home health, and the EMS. The other part is for patients who don't have health problems and don't need to go to the ER. The first thing, part of my job as the EMS officer in Harrisonburg is to take care of the people who are very sick. For me it is also the people who are very NOT sick.

Examples given by Safety Net Representative:

Four years ago, in Harris Garden Apartments, where a lady called 911 because she needed her blood sugar checked. She is 86 years old and just diagnosed with diabetes. She was sent home, given a glucometer, given an insulin pen, and told "here, you need to check your blood sugar and give it to yourself appropriately every day." She would call five times a day, because she was uncomfortable checking her own blood sugar. We worked with her for almost three weeks to try and find a way so she understood how to check her own blood sugar, because the doctor who was treating her at RMH had gone over everything with her, but she just didn't understand. She didn't qualify for home health care. So we worked with her, and it got to the point that, unless it was after 10:00 when she called 911 the center would call me on my cell phone and say "hey, can you go to her house and show her how to do it." So, I would go to her house and take that burden off the emergency responders.

We have a lady who currently is living on the north side of the city, when she was living in Apartments, she called 911 because she needed a glass of water, and she couldn't get up off her couch to go get it. For her, she didn't know who else to call. She has no friends. She has no family, she couldn't physically stand up. Her mattress was soaked with feces, and in fact I have to give the police officer credit. The police officer who went off to, who covered that area, went to her house, had her mattress taken to the dumpster and had a mattress donated for her. She hated it. She actually sent someone to get the mattress soaked in feces because she wanted HER mattress back. She didn't understand. She went to the hospital probably a dozen times over 7-8 days, and the hospital had problems dealing with this.

There is a gentleman on Colonial Drive, who has called the police department at least twice asking to have me arrested. He doesn't understand, he is actually an Iraqi refugee, and wants pain medicine. Truly, he would call every day for a week at 10:30 in the morning to have an ambulance take him to the hospital so he could get his prescription filled. They would only give him a 24 hour prescription. So, he would call 911 just to go to the hospital. I talked with the physicians at RMH. Some wouldn't give it to him, some would just write it and give it to him so he would leave. So, he would call every morning at 10:30, so finally I went to his house.

Normally if I go to the house the first question I would ask is what I can do to help them, whether it is working with social services, the community services board, home health, what can we do to help them. If there is nothing anyone can do when they refuse all of that, then we have to track it and at some point, say, "you have to stop calling 911 or we will take legal action." The problem is, to take legal action, and show an abuse, takes a lot of time. I will tell

you from an emergency responder's point of view, that is sometimes hard to understand. I would get phone calls from the rescue squad and firefighters that this person has called five times in five days. I understand that. That's not abuse yet. The only person we were able to take to court called 86 times over five weeks. That was, I think after talking with the Commonwealth's Attorney that it won't have to go to that extent the next time. But we don't ever want to have to take those steps. We want to find another way to work with them. So, that is the patients that we have the biggest problem with. Probably, they are the ones who don't have regular physician care, they don't have health care. Based on our current system it's hard to just leave them, because some of these people will have a problem in the next couple of hours. And some of them you can leave and they don't have real medical problems and they just need comforting. And how do you deal with that?

The current issue that I am working with is with, last week is a gentleman who lives with his wife and his son, and we got called to change his diaper. We got a call to pick him up off the bathroom floor, or he wasn't on the floor, he was still on the toilet because his wife or his son won't help him. When we showed up, the son was in the hallway, and his response was "he's in there and he hasn't been off the toilet in two hours." Then he walked back to his bedroom.

All of those cases get reported to social services. Whether social services is able to do anything with it varies. In this case, social services feel that there may be a case for abuse, but what they are trying is to get him to agree to an assisted living home. But he must be willing to accept it. In some cases, I have to give our Department of Social Services credit, I have an understanding with the rescue squad that in the city of Harrisonburg in these cases, that they call me. I actually have a very good relationship with Social Services if there may be a case that may be gray, about whether it is actually a case for social services, but they work with me to try to find a solution as best we can. They know that it is technically not our problem either, because we are sort of stuck with it. So, they work very closely with us.

Important note: that a key problem is that patients must WANT help.

Sometimes, relying on emergency responders to sit there with them for the hour to two hours to go through that process isn't realistic, either. So, its finding people to do that. That's part of what my job is, from a counselor's standpoint its them willing to want to go do it.

Member 2: The commonality that I hear in all your stories is that they are a conundrum. So maybe the question is, how do we improve our present system so that, that is one group of folks that don't have emergencies, or call emergencies. Getting on a bus, whatever the case may be. How do we, I don't have the answer, so I'm going to pose that to the group.

Explanation of the HCC: The Health and Community Council is looking seriously as addressing some of the transportation issues in the community. One of the issues we have talked about is not having door-to-door service for health care. And how we could take a look at that. V-Pass is helping in a limited way offering transportation to people for transportation to medical appointments and things like that. We can do door-to-door, so far as I know that is an accurate statement. Also, we are looking at how we can collaborate cooperate. We had a good panel discussion with people from the city and the county, and the state, talking about transportation in general and looking ahead to see what we can do now with the existing services and how we can take them further. So that could become a piece of this conversation as you are talking about

transportation issues. So we are looking at how we can provide some transportation. It sounds like that is door-to-door and maybe with a person who is at least knowledgeable about mental health so they can assist the person in making the right decision. About getting out of their house and getting to the next place where they need to go. So that could be a piece of the conversation as well.

Question: What proposals are you considering?

Member 3: One thing that we can do next, even if it is small, and then building on that to look at, ok, if V-pass has vans, other different community organizations have vans, we have a lot of volunteers. Volunteers are concerned about volunteering their time because they are not covered by an umbrella liability. So, how could we address that, so that a good neighbor can assist without the fear of being sued and losing their home or whatever. Any other small steps that we can take, it doesn't seem like the city and county have anything between them, so it looks like it is going to have to be a community driven effort.

Member 4: It was abundantly clear, that it would have to be a community-based private initiative. We will not get county support. We have a task force looking at the liability issue in terms of obtaining coverage, cost of coverage, organization obtaining coverage and someone speaking with the staff at the hospital. We have an expert that we can use to provide some education and guidance with that.

Member 3: But just looking at what would it cost us to have some sort of a policy that would kick in after someone's personal insurance is used, so that we don't have to worry about that, and I can take my neighbor to get help. One of the things I saw in the Health and Community Council word cloud, the positives were about the people, and the negatives about transportation. It was huge. They were almost equal but the people may have been a little smaller than transportation as a problem. If we can leverage the wonderful people and protect them we might be able to solve some of our transportation issues.

Question: It sounds like your job is solving where these people are the conundrums, so how does Wake have it structured? Do they have a full-time you??

Member 1: They have several full-time me's. Just so you know, if you don't know how EMS is structured in the city of Harrisonburg we have two primary agencies. We have a volunteer rescue squad that provides transportation and they are staffed 24 hours a day 7 days a week with 1 to 2 to 7 crews depending on the day of the week and time of day. And then we have a fire department that's staffed. Currently we have three engines and a ladder truck and a battalion chief that are all EMT and above. Then in administration, my job is supervising the emergency medical services component, and I have a 60% EMS medical services training officer who trains the personnel. Now my full-time job – 100% of my job is not EMS. That is only a portion of it. What the... We got a new fire chief after 33 years, in august. What the new chief contends, one, is he wants to make a person a full-time EMS officer. They'll do that and the training piece.

And then, what some of these places, like Wake, they have three people on during the day. They not only respond to people who have abuses of the 911 system, but they have a set of protocols where they respond on a specific set of illnesses, and they have a set of patients that they see who may have just been discharged from having a stroke or a stay in the hospital, and they may visit

them every other day or once a day until home health is able to come in and take over that. Just to make sure their current needs are met so that they don't have to call 911 and go back into the system.

The complications in Virginia:

In Virginia, the office of EMS rates all of the pre-hospital certifications. The office of EMS, by their admission, does not regulate these home health care visits. In 2014 they sent out a position statement based on the current regulations that pre-hospital providers were not allow to be able to do any of this. They have since been able to change the state regulations to remove the word "emergency," and allow paramedics to do some home health care visits. The problem is that it is regulated by home health care, not the office of EMS. So, depending on how you look to do this, when they do schedule home health care visits, they actually have to have a license from home health care, or however it is regulated under the Department of Health, as well as an EMS license. So, they have to have both. But they are able to do it.

Member 1: The other big component of this is working with the emergency department, specifically the physicians. And I will tell you this has nothing to do with, for those of you who don't know, the emergency physicians at RMH are separate from Sentara. And I have a phenomenal relationship with them. This has nothing to do with whether they are part of Sentara or not. Part of the issue that we run into when it comes to emergency physicians is this is a kind of approach where you really have to paint the picture with the physicians of what that patient is presenting with, because they are going to help guide you to "you need to bring that person to the emergency department," or "no, we can find an alternative." The paramedic will help paint that picture, that's what they are trained to do, but it's really important to remember is that he is from that medical profession. A common phrase you will hear from our medical control physicians is "follow your protocols." That is NOT what this is. Because this isn't protocol-driven, this is truly individual-driven. And part of what this is, is that following protocols is a liability issue for them. It says on every phone in the department "we do not give out medical advice over the phone." But we have to have the right physicians, or at least the right training to the physicians that says the person on the other end of this phone is painting you a picture of the patient that you need to help make this decision. It's truly a partnership with the Health Care Department, EMS, and all of that. No one department can do all this by itself.

Question: What stops EMS to making checkup visits to patients in the community.

Member 1: Staffing. They run 8,000 calls a year, from one to two ambulances on shift, at any one time. We don't staff any more than two. They don't have the staffing to do that. There are some people that don't want you there. There has to be some sort of relationship with them. That is why these community paramedic programs they are a small number of people, 10 to 12. One person may be assigned, sort of like geo-policing is in the city of Harrisonburg, where you have one person assigned to an area. That way they can build a relationship with the residents. Because the way the rescue squad is staffed, you may have anywhere from 40 to 50 people on any given Wednesday and you can't have that relationship. And with the frequent flyers, some of them come in spurts, where they are going to call 911 every day for five days, and then they won't call for six months. So they don't need that visit every day. What some of these people do, is once they call regularly with what I would call a non-emergency concern, that is where you would send that person out to build that relationship with them and sort of figure

out what do they need. So, with the rescue squad, they are not currently staffed to do that. They are staffed to respond to emergency calls. And with them running 8,000 – 8900 calls in a year they don't have the staffing to do that.

Member 5: To put it in perspective, the squad has had a 200 % increase in calls since 2005, so it not just the same number of calls, with the new volunteers could provide the new services, all volunteers are needed to provide the emergency service calls. Just in the city of Harrisonburg and the surrounding area.

Member4: How many of the calls are from so called frequent flyers.

Member 1: Frequent flyer-wise, almost abuse, there are actually less than 40 a year. Forty people. When it comes to non-emergency, that's a hard number to come by, because I would tell you probably 50% of that 8900 are non-emergency calls. OF those at least 50% of those still need to go to the emergency room, and the recommendation would be to send them.

Member 6: The only reason some people call 911 is they don't want to wait in the waiting room. And the only reason they are waiting in the waiting room is that there are so many coming in from 911 that don't need it. Well, the ED at RMH is restructuring.

How they are restructuring: Rather than everyone come in to triage, they will come into different bays, depending on the level of care they apparently need. There will be a pod of prodders in a certain specific area where that person will be. So they will be seeing the same nurses from room to room, the same doctors from place to place. And it is hard now, you are sitting there waiting for test results and all these people keep coming through your room and you think they are bringing you results. Its going to be much more pod-cast, I don't know how else to say it, there will be...heart, stroke, bleeding patients will be in one area where that group is attended. Then there will be the ones with the migraine headaches or whatever. I don't know how much training, have you had any training on that yet? It's really in the formative stages and it will be next year before it is in full function. That's one of the things that is happening. It doesn't change whose goes through, it just changes where they go and who sees them.

Member 1: By state law, EMS must actually pass the patient off to a nurse. So, if you are sitting there waiting for a triage nurse to triage nine other patients, we are going to be sitting there a long time, because we have to pass over care to the nurse.

There is a CAD system being worked on for 911 calls. One of the things I have requested in the new CAD system is medical surveillance. What medical surveillance does, as calls start coming into the call center it will look at several things. You will like some of this. It will start to flag if we get "so many" flu-like systems. And it will send an alert to me to say, there have been X number. You may start to have an outbreak in this area. Or it will flag a specific address, like a nursing home and say, you have run 5 flu-like symptoms in three days from a nursing home. So, we can start looking at, "do we have a neuro-virus outbreak" or something like that. We can also flag it that, do we have repeated 911 calls for ambulances at a specific address, and it will flag it at a specific time. The question is, the problem, and I will give you two addresses, one 19 West Washington Street, we frequently go there and there are five apartments at that building. Three of them call regularly, so which one person is going to call on any one day. I would give that information to the responders. I would rather them going without any pre-conceived

notions. Because, if they get that mentality that “they are always calling for this or that” they will miss something. I’m going to tell a story out of Alexandria, so I don’t tell a story out of here. Alexandria had a frequent drunk called 911, or had 911 called for him, 2 to 3 times a week, minimum.

On Taxi Voucher programs: The only issue, D.C. does a taxi voucher program. There are several places that do. The only issue with the taxi voucher program, you have to have a system where the providers are comfortable with people enough to leave the people alone, or have them transported in a vehicle that has no health care provider with them to take them to seek health care. And there is a little concern about that. If the person doesn’t need any health care whatsoever, and the person just needs us to find something else for them, that’s one thing. If they actually need to be treated for something, that’s a concern. I am now taking someone that maybe doesn’t need the emergency department but needs some kind of medical treatment, and then we have to have some sort of process in place that allows that person to be transported without a healthcare provider to that location.

You would be surprised at how large the homeless population is. There are several tent cities in Harrisonburg, and they move, because... there are some that are more permanent than others. We are probably running into at least 3 or 4 homeless in a week. OCP is a prime place where you can find a large homeless population. And I can almost predict the time of day that they will call. OCP closes at 5 o’clock, so the time between 4:30 and 6:00 we’ll get a call to OCP, because they know they’d get a hospital stay, and at least get a meal and be where it’s warm.

Question: So, for those homeless, I was thinking if you are sending them by taxi, and they are not claiming any medical issues, then maybe that would free up other services, or free up the waiting room.

Member 7: They are all claiming medical issues because they want to go to the ER. They want to get in where it’s warm. They are going to ask to go to one of two places, they are going to ask to go to the ER, or they are going to ask to be arrested, because they know the jail is heated. In those cases, they are claiming it because there is nowhere else they want to go. But with that program, we still have to have a funding mechanism, or the city has to agree to... well, the city doesn’t run any taxis any more. So, it would have to be someone who would either be willing to pay for that, or the taxi companies would have to be willing to donate X-number of vouchers a month for that timeframe.

On Community Paramedics: That’s the nice thing about the community paramedic program; because once you identify those patients from our standpoint we would, if the patient called to complain about a specific criterion, we wouldn’t send an ambulance to their house. We would send our on-duty community paramedic, because we would have it 24 hours a day 7 days a week specifically for that. From a 911 standpoint, if they call and say I am having chest pain, we are going to HAVE to send everyone anyway. We are going to have to treat them no different than anyone else. If it is one of those addresses that we had flagged as a hot-spot we may add the paramedic to the response, because when they get there their job wouldn’t be to take over what else was doing, but maybe assist those who are there, saying, you know what, I don’t think this is an actual chest pain. Let me talk to him to see what is really going on. Because they have already built the relationship with that person. But we would have to change out guidelines. It’s

something we would have to provide 24/7. Truthfully, I would need to start with, probably three. We would probably need one a day, 24 hours a day, 7 days a week. I would probably, we are already moving towards this, probably a supervisor to work with them. We would need to start with three. The cost, the first year cost, would be close to \$300,000 between a vehicle, equipment and the providers. Annually after that, the cost comes down just a little bit. It's about \$200,000 a year. It's not an overly expensive program, but it's not cheap either. And that is a ballpark figure. I would have to sit down and calculate but I could probably start it off with that. We would need to hire, its three additional positions, so we would have to hire them. We would need to specifically advertise for paramedics who have more than 3 to 5 years experience. You don't want a brand new paramedic out of school because you want someone who is comfortable not to run to the gunshot wound, and is willing to sit with a person for 2 to 3 hours. That takes a specific mindset. The other thing is, once we hire those people, it is about 500 hours of training we would need to put them through. Because most people in the area don't have that training in this area. There are programs out there, but we would have to develop the training in-house. What it would be would be sitting in the Free Clinic for a while to see how their process works, sit with the medical director in the ER to become comfortable with the physicians and understand their process, and to work with home health care and social services and go through their processes as part of that 500 hours of training before we actually started it. So it would take a little bit before we could get the program going.

HRS has 140 super active volunteers. But it is an organization that never ages. I have been in EMS here 27 years and the average age remains 19, because of JMU. With 25% of the city of Harrisonburg being between the ages of 18 and 24, that's where the rescue squad can build from. So as long as they are able to pull from that, they will be able to continue.

Member 2: I think having this conversation with the parties here, enabled us to say this is something we can help build, is a good start. If we truly had this conversation six months ago, I thought we had a good avenue. For some reason the door closed. If we were able to develop this program, it would allow them to be volunteer longer, because they wouldn't have to worry about that small piece. I think being able to provide that better level. We are talking about this from a health care aspect. That is where it really falls. But some of this is more of a mental health issue. Some of these people don't get any sort of health care. They just need help. It is being able to provide that service to them in some form or fashion. There is an EMS model, and EMS agenda for the future which was written in 1996 and hasn't been updated since then. One of the things talked about the merging of EMS with social services and health care, because we are often considered sort of that separate entity. Are we public safety or are we health care? I take the stance that we happen to be both. We happen to merge them both and bring the two together. The CIT program at the police department is the exact same thing. It helps bring the community medical and medical health and safety together, partnering a police officer and a health care worker to provide those services. That's really what we are about. You all see these patients every day in your clinics or in their homes. We see them too when they call 911, so how can we help each other, to help that person out. That is something I will think about and I will definitely come back to you all.

VII. Appendix II: Safety Net Coalition Members

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VIII. Appendix III: Documents

The following documents are listed in this appendix in order:

1. Blueprint for Community Paramedicine Program: Specific to South Carolina
2. Community Paramedicine: A Promising Model for Integrating Emergency and Primary Care
3. Caring for High-Need, High-Cost Patients: What Makes A Successful Care Management Program
4. King County Strategic Initiative
5. Voucher Program Summary: King County Emergency Medical Services Division
6. Project Summary Sentara Halifax: Care Coordination in the Emergency Department with EMS Organizations as Partners
7. CSB: HPR I Regional Admissions
8. Statistical Reasons of 911 abuse: Morehead
9. Community Paramedics in Ann Arbor, Michigan
10. Morehead City Fire & EMS protocol flowchart
11. The KC Voucher Template

Blueprint for Community Paramedicine Program: Specific to South Carolina

BLUEPRINT FOR COMMUNITY PARAMEDICINE PROGRAMS ESPECIALLY FOR EMS AGENCIES



Specific to South Carolina 

Version 1: The Abbeville Experience

South Carolina Office of
Rural Health 

The Purpose and the “How To” Section

Purpose:

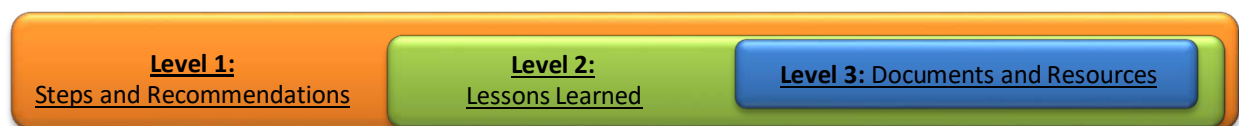
The Blueprint was designed around the resources and tools that were paramount in the development of Abbeville’s Community Paramedicine (CP) program. Version one, The Abbeville Experience, showcases examples, resources, tools, recommendations, lessons learned and best practices. As a result, the Blueprint is specific to South Carolina and is geared towards EMS agencies. We hope that this Blueprint will be a useful toolkit for other healthcare providers that are interested in starting the journey of implementing a Community Paramedicine program.

While we hope this blueprint will be a useful tool in navigating the road to a unique, effective and sustainable Community Paramedicine program, it is important to state that this Blueprint is a living document that will be revised, updated, and changed. Please use this document as a point of reference for developing your Community Paramedicine program.

Additionally, even though this toolkit was developed to help others navigate Community Paramedicine program development in South Carolina, it is *not* an exact roadmap. We cannot guarantee that your Community Paramedicine program will be successful. This toolkit was designed to help you build your program; however, no two Community Paramedicine programs are alike. What worked for Abbeville, South Carolina might not work for your community and it is your responsibility to identify what will work for you and your community.

How To:

The Blueprint has three levels of information:



Level 1 illustrates the general course of action needed for developing a Community Paramedicine program in South Carolina; this is done through directions, recommendations and steps. Level 2 depicts the best practices and lessons learned from the Abbeville CP program. Lastly, Level 3 includes relevant documents and tools for current and future reference.

Introduction to Community Paramedicine Programs

Community Paramedicine

Community Paramedicine is a relatively new term that was first introduced in the early 2000's and is now getting a lot of attention both nationally and internationally. Community Paramedicine programs are being used to increase access to primary and preventive care, provide wellness interventions within the medical home model, decrease emergency department utilization, save healthcare dollars and improve patient outcomes using emergency medical service providers in an expanded role⁴. These programs are supportive of the overall changes in healthcare happening now in the US.

Initially, Community Paramedicine programs were geared towards enhancing community health. Like most new ideas, Community Paramedicine programs have evolved beyond just enhancing community health and are now being implemented nationally for numerous reasons. While Community Paramedicine programs differ substantially from each other, most programs have been geared towards post discharge care, chronic disease monitoring, patient education and primary care services outside of traditional health care settings³. Ultimately, all of these programs are hoping to reduce non-emergent ED visits, inpatient readmissions and inappropriate utilization of healthcare resources. Thus, Community Paramedicine programs are attempting to bridge the health care gaps in both urban and rural settings.

At the national level, the term "Mobile Integrated Healthcare" is being used as an overarching phrase for non-emergent, pre/post hospital EMS care initiatives. The National Association of Emergency Medical Technicians defines Mobile Integrated Healthcare as "the provision of healthcare using patient-centered, mobile resources in the out-of-hospital environment"⁵.

National Community Paramedicine Programs

In this section, the National Community Paramedicine programs have been divided into Community Paramedic and Other Expanded Role Programs.

1) Community Paramedic

Western Eagle County Health Services District (WECAD Model)

The Western Eagle County Health Services District, commonly known as WECAD, served 54,000 residents in Eagle County, CO. The goal of their Community Paramedic program is to "improve health outcomes among medically vulnerable populations and save healthcare dollars by preventing unnecessary ambulance transports, emergency department visits, and hospital readmissions"⁶. The WECAD program is predominantly known as the rural Community Paramedicine model across the nation.

⁴ Rural Health Association Policy Brief. Principles for Community Paramedicine Programs. www.ruralhealthweb.org

⁵ NAEMT. What is Mobile Integrated Healthcare. http://www.naemt.org/about_ems/MobileIntegratedHC/MobileIntegratedHC.aspx

⁶ Western Eagle county Health Services District. Community Paramedic Program Handbook. Fall 2011 Version 1.2.

partners impacting any future ability for a program launch. Due to the innovative nature of this type of program, an unsuccessful launch could be a big loss for your service. The checklist below will help you to think about your capacity for a Community Paramedicine program:

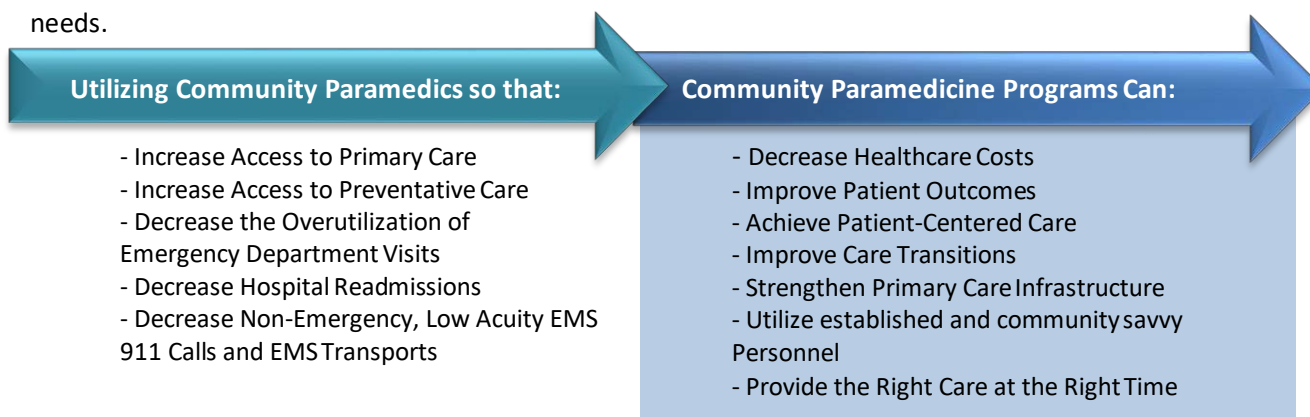
Community Paramedicine Checklist	Yes	No
Is there a hospital in the community that the CP program will be serving?	<input type="checkbox"/>	<input type="checkbox"/>
Is there adequate administrative time? Do you have enough staff to plan and administer a Program?	<input type="checkbox"/>	<input type="checkbox"/>
Is there a medical control champion?	<input type="checkbox"/>	<input type="checkbox"/>
Is there a program champion?	<input type="checkbox"/>	<input type="checkbox"/>
Is your organization mature enough?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have political opponents?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have competing healthcare entities?	<input type="checkbox"/>	<input type="checkbox"/>
Is there “extra capacity” in your system?	<input type="checkbox"/>	<input type="checkbox"/>
Are you struggling to fully staff your ambulances each shift?	<input type="checkbox"/>	<input type="checkbox"/>
Will you have to shut down an ambulance to staff a CP vehicle?	<input type="checkbox"/>	<input type="checkbox"/>
Are there opportunities for funding?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have the ability to put proper checks and balances in place to keep from harming patients?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have the resources in place internally, especially in your budget?	<input type="checkbox"/>	<input type="checkbox"/>



- [Health Reform Glossary: Terms and Acronyms Defined](#)
- [National Association of Emergency Medical Technicians: 2012 Study](#)
- [Additional Information on WECAD and their Community Paramedicine Program Handbook; Minnesota’s Community Paramedicine program, reimbursement legislation, and their “Implementing an Effective CP Program” handbook; MedStar’s Mobile Integrated Healthcare; and Wake County EMS and their Advance Practice Paramedics;](#)
- [Additional Information on the Primary Health Care Model, Substitution Model, Community Coordination Model, and related international ambulance services.](#)

Identifying Needs in the Community

Identifying needs within a targeted community can be an intimidating task; however, breaking down the properties of Community Paramedicine will help to give some direction in identifying community specific needs.



Information Collection:

This section relies on the collaboration of healthcare entities in the community; thus, it is extremely important to collaborate and continue to build relationships with key stakeholders. Keep in mind that Community Paramedicine programs are designed to fill the gaps and address the barriers to healthcare within the community. A successful Community Paramedicine program is one that does not duplicate services within the community, but one that identifies where the gaps lie and how to effectively and efficiently place Community Paramedics in these gaps. The answers to the questions below will help you to determine the environment of your healthcare community, tell your story, and make your case for your Community Paramedicine program.

Access to Care



Question	Resource	Rationale
How many hospitals are in the county that your CP program wants to serve? Is the hospital(s) a non-profit, for-profit, or governmental hospital?	<ul style="list-style-type: none"> • South Carolina Health Data http://www.schealthdata.org/ • Your local hospital, if it is a non-profit, will have a Hospital Community Benefit Report that may help your Community Paramedicine program to identify its community needs. 	<ul style="list-style-type: none"> • Understanding your community's access to care. • Identifying your community's hospital resources. • Identifying the needs of your community. Using your local hospital data/quality reports will help you get a greater understanding of your community's healthcare environment. • Assisting partnership collaboration.
What EMS agencies serve the county? Are they hospital based, county owned, rescue squads, or privately managed EMS providers?	<ul style="list-style-type: none"> • South Carolina Department of Health and Environmental Control- Division of Emergency Medical Services & Trauma (www.scdhec.gov/health/ems) • Credentialing Information System: https://apps.emspic.org/CIS/Public 	<ul style="list-style-type: none"> • Identifying your EMS providers. • Assisting partnership collaboration.
How many Primary Care Physicians are in the county? How many Primary Care offices?	<ul style="list-style-type: none"> • The South Carolina Health Professions Data Book at: http://officeforhealthcareworkforce.org/big_Docs/ohw_cdb2012.pdf • SCORH Primary Care Needs Assessment 	<ul style="list-style-type: none"> • Identifying your community's Primary care needs. • Gathering data and facts to make your CP case.

Are there any Free Health Clinics? Federally Qualified Health Centers? Rural Health Clinics?	<ul style="list-style-type: none"> SC Free Clinics Association: http://www.scfreeclinics.org/ SC Primary Health Care Association: http://www.scphca.org/ SC Office of Rural Health: www.scorh.net 	<ul style="list-style-type: none"> Identifying points of contact and potential CP program referrals. Assisting partnership collaboration
Will you be serving a Medically Underserved Area or a Health Professional Shortage Area?	<ul style="list-style-type: none"> SC Primary Care Office: https://www.scdhec.gov/health/opc/hpsa.htm 	<ul style="list-style-type: none"> Gathering data and facts to make your CP case. Identifying your community's healthcare environment.

Emergency Department Visits

Question	Resource	Rationale
What is the Emergency Department utilization? What demographic is using the ED the most in the community?	<ul style="list-style-type: none"> SC Budget and Control Board: http://hd.ors.sc.gov/default.php 	<ul style="list-style-type: none"> Understanding your healthcare environment. Helping you make your CP case. Assisting partnership collaboration
What are the health disparities in the community? Do these disparities contribute to the emergency room visits?	<ul style="list-style-type: none"> County Health Rankings: http://www.countyhealthrankings.org/ 	<ul style="list-style-type: none"> Helping you define your Community Paramedicine program. Gathering data and facts to make your CP case. Identifying potential needs of the community.

Hospital Readmissions

Question	Resource	Rationale
What discharge diagnosis is the most likely to be readmitted within 30 days to the hospital in your Community?	<ul style="list-style-type: none">  Hospital Compare: http://www.medicare.gov/hospitalcompare/search.html  myschospital.org Your local hospital's quality department will have this information. 	<ul style="list-style-type: none"> Understanding your community's healthcare environment. Identifying areas where the CP program would be beneficial to CP partners. Helping to tell your story and make your case.
Is chronic disease and poor management of chronic disease a contributor to the readmission?	<ul style="list-style-type: none"> County Health Rankings: http://www.countyhealthrankings.org/ South Carolina eHealth Medicaid Statistic: http://www.schealthviz.sc.edu/ SC DHEC Data & Reports: https://www.scdhec.gov/health/epidata/index.htm 	<ul style="list-style-type: none"> Identifying community needs and potential CP area of focus Understanding your community's healthcare environment.
What quality initiative is the hospital currently implementing to help reduce readmissions?	<ul style="list-style-type: none"> Contact your local hospital and discuss their current quality initiatives. Center for Medicare and Medicaid: www.cms.gov SC Medicaid: www.scdhhs.gov 	<ul style="list-style-type: none"> Identifying current or future initiatives that the CP program could participate in. Helping you to understand the current healthcare environment in your community. Identifying potential resources.

EMS 911 Calls and Transports

Question	Resource	Rationale
What are the annual total EMS calls for the county? What percentage of the 911 calls resulted in a transport to the Emergency Department? What percentage did not?	<ul style="list-style-type: none"> County 911 Center Agency PCRs 	<ul style="list-style-type: none"> Understanding the EMS agency. Helping to make your CP case.
What was the most common acuity of patient being transported? High-acuity or Low-acuity? Emergent or Non-Emergent?	<ul style="list-style-type: none"> County 911 Center Agency PCRs 	<ul style="list-style-type: none"> Identifying transportation statistics. Understanding EMS transportation load.

Outlining Your Program

Bridging Healthcare Gaps

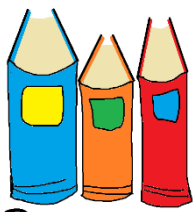
Improving systems of care, care coordination, and strengthening the delivery of healthcare within a community is extremely beneficial to not only the healthcare entities in the area but to the residents within the community. There may be numerous gaps in your community and it is important to set community specific constraints; what is the Community Paramedicine team comfortable in doing? What are they not comfortable doing? Asking these sorts of questions will help in the collaboration and development of the Community Paramedicine program. It is important to:

1. Identify the top gaps in your community
2. Rank the identified healthcare gaps with how effectively the Community Paramedics can address these potential gaps.
3. Collaborate with your CP stakeholders and identify what area(s) have the greatest amount of interest.
4. Align the final gaps to the ultimate goal of the CP program

Once you have the basic parameters of your program outlined, it is a good idea to create a one page description of your program to be able to distribute to partners and other stakeholders.

Lessons Learned

- It can be difficult to parse out your community's needs versus their priorities. Keep in mind that there are often lots of needs but only some of those will gain traction with the resources at your disposal in your community. You may have to determine politically what needs are feasible to pursue.
- The more partners, especially physicians, you have buying into the "problem" the more support your program will get.
- The solution to your community's needs must match the resources of your community.



Resources

- [South Carolina Community Paramedicine Fact Sheet](#)

Program Sustainability

Identifying Potential Funders

Increasing concerns about healthcare reimbursements and budget cuts make for an excellent opportunity for Community Paramedicine programs to be established within South Carolina. Community Paramedicine programs strive to save healthcare dollars by utilizing already in place EMS personnel to serve their community, within their scope of practice, and thus achieving reductions in illnesses and injury and preventing unnecessary transports, ED visits, and readmissions¹⁷. Here are some ideas on how to identify potential funders:

- i. Partner Funding:
 - a. South Carolina Hospitals (Look at their current incentives and penalties)
 - b. Medicaid QI Initiatives (e.g. SC DHHS Healthy Outcomes Plans)
 - c. Accountable Care Organizations or other similar models
 - d. Local Businesses' Wellness Programs
- ii. Grant Funding:
 - a. Grants: e.g. Federal Office of Rural Health Policy grants
 - b. State & National Foundations/Endowments
 - c. The Duke Endowment (in partnership with a hospital or other eligible organization)
- iii. Other Potential Funding:
 - a. Emergency Management
 - b. Public Safety Funds
 - c. County Funds
 - d. Insurance Providers
- iv. Proposed Changes to reimbursement of EMS for Community Paramedicine

Typically to obtain financial support, a Community Paramedicine program must:

- 1) Identify your Community Paramedicine Program Case for Support
- 2) Prepare a Community Paramedicine Business Plan
- 3) Establish physician oversight for your program.
- 4) Establish and document your training program

Typical Format for Applying for a Grant:¹⁸

- Executive Summary
- Statement of Need
- Project Description
- Budget¹⁹
- Organizational Information
- Conclusion

¹⁷ NOSORH: Discussion Paper on Community Paramedicine. www.nosorh.org/resources/files/community_paramedic_programs.pdf

¹⁸ Mary, T., & Bielefeld, W. (2012). Resource Acquisition. *Managing Nonprofit Organizations*. Jossey-Bass.

¹⁹ See the Sample Budget Items in the Western Eagle County Health Services District Community Paramedic Program Handbook: Page 14.

Program Components

Identifying Community Paramedicine Personnel

Community Paramedics are the heart and soul of CP programs; thus, the program will only be as good as its best Community Paramedic. The transition from a traditional Paramedic role to a Community Paramedic role is not a transition to be taken lightly. Here are some common skill sets and traits that will help you identify strong Community Paramedics:

- 1) Interest in Community Paramedicine
 - i. Another benefit of Community Paramedicine is that it creates an additional career path for EMS personnel.
- 2) Strong Leader
 - ii. This is especially important for your first round of Community Paramedics because these paramedics will be support for training your next round of Community Paramedics.
- 3) People Person
 - iii. A Paramedic that is able to feel comfortable and make others feel comfortable will be a great asset. Developing a good rapport with your CP patients will help to achieve patient buy-in.
- 4) Seasoned Paramedic:
 - iv. Paramedic that have extensive experience, 5 or more years, will more easily transition back and forth from a paramedic to a Community Paramedic. Experience locally is also key to building and maintaining relationships with other healthcare entities.

Lessons Learned

- Expect your service members to be open to new ideas but do not overestimate their ability to quickly adapt to the cultural change required for this type of program.
- Set minimum standards for a Community Paramedic in your service to include number of years with your service and/or number of years licensed. Consider asking potential applicants to provide a letter of intent or otherwise express their rationale in writing for wanting to become a Community Paramedic.
- Begin vetting candidates as early as possible due to the length of time training requires.
- Consider skills your CPs will need beyond patient care: how do they work with other healthcare providers and community organizations now? Do they need additional training in leadership or management skills to help them become more confident in this area?

Regulatory Considerations

As the licensing and regulatory body for EMS in the state, the SC DHEC Division of EMS and Trauma is a primary stakeholder in Community Paramedicine program development. Any agencies seriously interested in pursuing a formal Community Paramedic program will need to communicate with the Division in writing. More specifically, agencies will be asked to submit a pilot proposal to the Department outlining their program's components.

At this time, the Division has not made any recommendations about the formal definition of a Community Paramedic or potential training standards in the state. National stakeholder groups such as the National Registry and the National Association of State EMS Officials may influence these decisions in the future.

It is critical that any service pursuing Community Paramedicine program development take the time to review SC DHEC Regulation 61-7 and the scope of practice for a South Carolina Paramedic in the context of their specific program plan. These are currently the maximum limits for program scope.

A service director may also want to become familiar with the regulations concerning other healthcare professional's scope of licensure standards in South Carolina. It is critical that any Community Paramedicine program be able to identify its distinction from nursing care and in particular, home health care services.

Lastly, an agency in the process of developing a Community Paramedicine program may want to review their liability insurance policies to ensure any services rendered will be covered. In most cases, since everything is within a Paramedic's scope of practice, there is no issue. However, it is recommended that this is done early in the process to avoid any issues later in the program's development and implementation.

Lessons Learned

- The Committee structures that advise DHEC on matters of EMS are longstanding and are not wholly impacted by staffing changes within the Department. In particular, the Medical Control Committee is key to this process since it is in charge of approving EMS pilot programs.
- Keeping your pilot proposal simple – and within the current scope of practice – is key.
- Relationships with nurses and other providers happen locally. While it is important to be aware of the implications of any state politics on your program, it is more important that your local

Program Evaluation

The most difficult step in implementing your Community Paramedicine program is evaluating what you have done. How do you know that you have improved patient outcomes or saved costs? The first step in any good program evaluation is to make sure you are asking the right question. Go back to the beginning of your journey and think about the one single problem you wanted to solve. Maybe it was too many non-emergent 911 calls. Your question then is, did using Community Paramedics in my community reduce the number of non-emergent calls? Once you have your question, you will want to consider putting an evaluation plan into place.

Evaluation Plan Steps

1. Develop your team.
 - a. Who will lead it? Will he or she be internal or external to your operations?
 - b. Which of your other partners need to be involved in this team?
2. Define your audience.
 - a. Who will be reviewing your work? County council? A local hospital administrator? A staff person from the Medicaid agency? What does he or she care about most?
 - b. How will you present your data to your audience in a way that it is well-received, regardless of the outcome?
3. Outline your plan.
 - a. How is your desired outcome related to each of the steps you took to get to that outcome? (Use a Logic Model to help you visualize this.)
 - b. Which of those specific steps can you measure?
 - c. What is your timeline for measuring your outcome?
4. Determine where you will get your data.
 - a. Will you use your ePCR to collect data on home or community visits?
 - b. How will you get data from your other partners? Do you need to have data sharing agreements in place?
5. Put your plan into action.
 - a. Collect data at regular intervals and review outcomes with your team. Consider using “scorecards” to track most critical measures.
 - b. Stick to your timelines to the best of your ability and be prepared when it is time to develop your final report.

An evaluation is different from your internal quality assurance processes. While you still need to do QA on your Community Paramedic calls to detect and correct deficiencies in care, much like you would do for your regular service, an evaluation is a necessary next step to ensure you can document your overall program success or failure. Since Community Paramedicine programs are new, it is up to all of us to collect and document as many outcomes as we can to build an evidence-base for them.

An evaluation is also necessarily different from “telling your story”. This is covered in the Program Branding section.

The EMS Performance Improvement Center is currently working with programs in North and South Carolina to develop common measures for data collection in Community Paramedicine programs. This



Dear Members,

Last summer, we asked you to participate in a survey about community paramedicine (CP) and mobile integrated healthcare (MIHC). The survey was conducted to help everyone in EMS better understand these trends, and to develop strategies and policies to support it.

At this time, we are pleased to provide you with a summary of the responses to this survey.

Community Paramedicine/Mobile Integrated Healthcare Survey Summary

As an additional resource, an interactive map has been created of all community paramedicine and mobile integrated healthcare programs reported through the survey.

CP/MIHC online interactive map

The NAEMT Board of Directors, with the assistance of NAEMT's Community Paramedicine/Mobile Integrated Healthcare Committee, will continue to explore this issue and share pertinent information with our members. You can learn about this subject by visiting the **Community Paramedicine and Mobile Integrated Healthcare** page on NAEMT's web site.

We hope you find this information useful. As always, thank you very much for your continued support of NAEMT and the EMS profession.

Sincerely,

Don Lundy, NREMT-P
President, NAEMT

MedStar

MedStar in Fort Worth, Texas is currently serving more than 880,000 people. Medstar stated that the goal for their EMS Mobile Healthcare Program is to achieve Triple Aim; which is, improve patient experience and patient care while reducing per-capita costs. The EMS provider MedStar, has several programs that are centered around patient navigation and Mobile Intergrated Healthcare. These are:

- 911 Nurse Triage
- EMS Loyalty Program
- CHF Readmission Avoidance
- Hospice Revocation Avoidance
- Observational Admission Avoidance.²⁴

To find more information regarding MedStar and their programs please go to their website at:

<http://www.medstar911.org/>

Wake County EMS - Advanced Practice Paramedics

In hopes of "adding a new and efficient enhancement" to their existing Wake County EMS model, their service implemented an Advance Practice Paramedic in January, 2009²⁵.

- Website:
<http://www.wakegov.com/ems/about/staff/Pages/advancedpracticeparamedics.aspx>
- Video on Wake's Advanced Practice Paramedic Program (APP):
http://wake.granicus.com/MediaPlayer.php?publish_id=221

International Community Paramedicine Models

International Community Paramedicine programs differ slightly from Community Paramedicine programs in the US. The Council of Ambulance Authorities (CAA) identified three EMS models that were developed and executed in rural and very rural areas; these are²⁶:

Primary Health Care Model
Substitution Model
Community Coordination Model

²⁴ MedStar: Mobile Healthcare Programs-Overview. Accessed on November 26, 2013: <http://www.medstar911.org/community-health-program>.

²⁵ Advanced Practice Paramedics. Wake County EMS. Accessed on November 29, 2013 at <http://www.wakegov.com/ems/about/staff/Pages/advancedpracticeparamedics.aspx>

²⁶ Blacker, N., Pearson, L. Walker, T. Redesigning paramedic models of care to meet rural and remote community need. Council of Ambulance Authorities and Ambulance Victoria: http://ruralhealth.org.au/10thNRHC/10thnrhc.ruralhealth.org.au/papers/docs/Blacker_Natalie_D4.pdf

Primary Health Care Model

CAA defines the Primary Health Care Model as an "integration of health services in partnership with other health professionals, extended access to primary health services and to promote disease and injury prevention while continuing to provide pre-hospital emergency care". The *Ambulance Service of New South Wales* (ASNSW) and *Queensland Ambulance Service* (QAS) are examples of the international Primary Health Care Model as defined from the Council of Ambulance Authorities. These programs differ in the respect that the ASNSW program is geared towards a metropolitan area and the QAS program is geared towards rural and remote areas; however, the main focus of both of these models is on extended treatment and referrals.²⁷

The Community Referrals (CREMS) program in *Ontario* allows Community Paramedics to make referrals to the Community Care Access Center; the referral has to be on the behalf of the patient and with their consent. The CREMS program follows the Primary Health Care Model of pre-emergency care and referral. CREMS identified that most of their calls were low-acuity, non-emergency calls that needed primary care or additional help accessing other community services. Thus, Toronto EMS developed the Community Paramedicine program so that paramedics could address the growing number of paramedic responses.²⁸

Substitution Model

The substitution model uses EMS personnel "in hospital emergency departments as either a substitution for General Practitioners or Nurses" as described by the CAA. An example of the substitution model is the *St. John Northern Territory* ambulance service. This model expands the scope of practice of paramedics and ensures that communities have appropriate levels of healthcare coverage in the community.²⁵

The *Nova Scotia* Community Paramedic program is using a substitution model as well. These Community Paramedics are being placed in an isolated location, the island of Long and Brier, to establish 24/7 emergency medical coverage on the island. Nova Scotia EMS states that "when the paramedics are not busy with emergency calls, they provide non-emergent health care and will be working jointly with a Nurse Practitioner and an offsite Physician". The Community Paramedics' duties include administering flu shots, holding clinics, and checking blood pressures. Also, non-emergent phone calls for services are included in the role of the Nova Scotia Community Paramedics. These include: Diabetic Assessments; Wound Care; Drawing Blood for Lab Tests; Congestive Heart Failure Assessment; Administration of Antibiotics; Urinalysis Assessment; Suture Staple Removal; Medical Compliance; and Educational Sessions. The educational sessions include fall prevention, first aid, CPR, infant child seat installation, and bicycle helmet safety.²⁶

Community Coordination Model

Lastly, the community coordination model uses EMS personnel "in coordinator roles primarily aimed at supporting ambulance volunteers while providing the community with additional health services as required".

An example of a Community Coordination Model from the Council of Ambulance Authorities (CAA) is the *Ambulance Victoria*. This model focuses on recruiting, retaining and providing support to existing health services when needed. Additionally, a more "traditional" Community Paramedic role in Australia is the *St John Western Australia* ambulance service; activities include assisting local healthcare entities in meeting the demand for services, assisting hospital staff in the absence of other medical providers and providing a point of access for the community when no other medical providers are available.²⁵

²⁷ Blacker, N., Pearson, L. Walker, T. Redesigning paramedic models of care to meet rural and remote community need. Council of Ambulance Authorities and Ambulance Victoria: http://ruralhealth.org.au/10thNRHC/10thnrhc.ruralhealth.org.au/papers/docs/Blacker_Natalie_D4.pdf

²⁸ Nolan, C., Hillier, T. D'Angelo, C., Community Paramedicine in Canada. Emergency Medical Chiefs of Canada: <http://www.nasemso.org/Projects/RuralEMS/documents/CommunityParamedicineCanada.pdf>

Community Paramedicine Needs Assessment

Abbeville County, SC – September 2012

Public Health Need:

Table 1. Demographic Characteristics						
	<i>Total Population, 2010¹</i>	<i>African American, 2010¹</i>	<i>Adults 25+ less than HS, 2010¹</i>	<i>Population in Poverty, 2010²</i>	<i>Unemployment rate, SC DEW, June 2012</i>	<i>Adults 18 - 64 without health insurance³</i>
<i>Abbeville</i>	25,417	28.3%	23.2%	19.7%	11.3%	23.2%
<i>South Carolina</i>	4,625,364	28.2%	17.0%	17.1%	9.4%	23.1%

Table 2. Chronic Disease Risk Factor Prevalence - 2010 DHEC County Profiles					
	<i>Current smoking</i>	<i>Sedentary lifestyle</i>	<i>Overweight</i>	<i>High Cholesterol</i>	<i>Hypertension</i>
<i>Abbeville</i>	18%	24%	78%	31%	45%
<i>South Carolina</i>	21%	21%	67%	42%	35%

Table 3. Chronic Disease Mortality Age-Adjusted Rates (per 100,000) - 2010 DHEC County Profiles				
	<i>Heart Disease</i>	<i>Stroke</i>	<i>Diabetes</i>	<i>COPD</i>
<i>Abbeville</i>	197.5	61.2	29	73.2
<i>South Carolina</i>	188.9	47.7	22.5	46.2

Table 4. Chronic Disease ED Utilization Rates (per 100,000) - 2010 DHEC County Profiles				
	<i>Heart Disease</i>	<i>Stroke</i>	<i>Diabetes</i>	<i>COPD</i>
<i>Abbeville</i>	562	219	355	1701
<i>South Carolina</i>	371	94	291	982

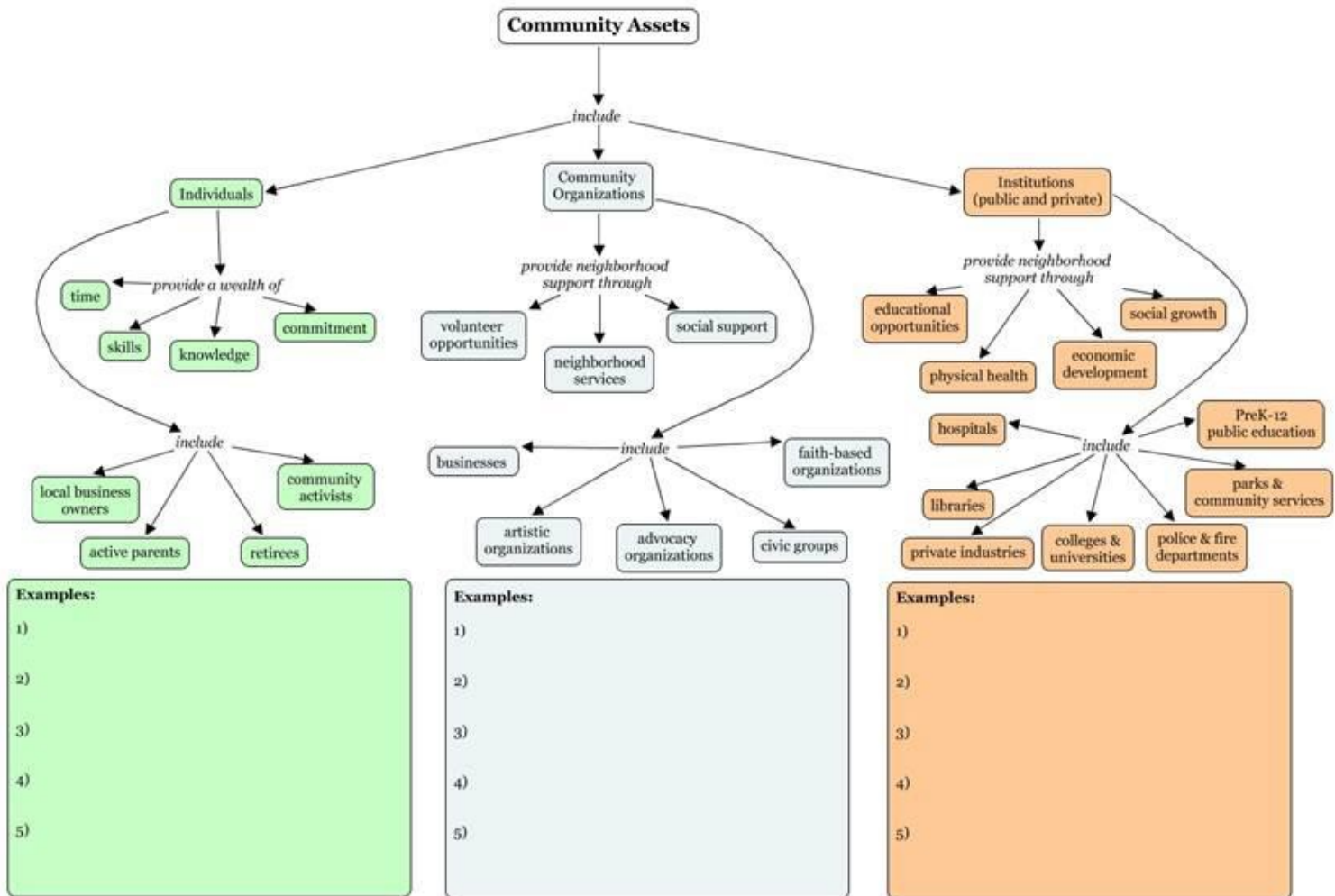
Table 5. Emotional Well-Being & Overall Mental Health Indicators - 2008-2010 BRFSS			
	<i>One or more days poor physical health in past month</i>	<i>One or more days poor mental health in past month</i>	<i>One or more days disabled for physical or mental reasons in last month</i>
<i>Abbeville</i>	24.4%	37.1%	46.1%

The South Carolina Office of Rural Health (SCORH) can compile a Needs Assessment for Primary Care and Specialty Care Physicians for rural counties in South Carolina. Specifically, the Needs Assessment for your county will:

- Determine the need for primary care physicians;
- Determine primary medical service area and population;
- Estimate primary and specialty care physician office visits; and
- Estimate the total demand for primary and specialty care physicians in the medical service area.

Additionally, SCORH's Needs Assessment will highlight population growth or decline over the past couple of years. Please contact Sarah Mathis at Mathis@scorh.net for more information on SCORH's Needs Assessment.

Community Assets Map: Example 1



Vosoughi, V., Monroe, H. *Neighborhood Asset Mapping: Moving Toward Convergence*. Florida Institute of Education at the University of North Florida.
<http://www.unf.edu/uploadedFiles/aa/fie/NO3Asset%20Mapping.pdf>.

South Carolina Office of Rural Health

107 Saluda Pointe Drive
Lexington, SC 29072
Tel 803-454-3850 ~ Fax 803-454-3860
www.scorh.net

December 2, 2013

Jane Doe

Position

Name/Office/Department

111 Address Here

County, State Zip

Dear Ms. Jane Doe:

As (your position here) for (where you work), I would like to express my support and willingness to participate in the development of (what you are interested in developing: program/initiative) here in (area- if it applies). (Explain here why you want to be involved). I am excited at the prospect of (what are you excited about).

(Concluding sentence)

Sincerely,

(Sign your name)

Your Name

(Position)

Support Letter: Example 2



HUMBOLDT GENERAL EMS/RESCUE

118 E. Haskell Street • Winnemucca, Nevada 89445

Phone 775.623.5222 ext. 260 • Fax 775.625.8541

Pat Songer – Director of EMS

Thursday, February 09, 2012

Dear Colleague,

Humboldt General Hospital Emergency Medical Services Rescue (Winnemucca, NV) will host a Community Paramedicine Stakeholders Meeting from 8:30 a.m. to 4:30 p.m. Tuesday, March 27. Humboldt General Hospital will facilitate the daylong event which will include guest speakers from a number of diverse backgrounds. These speakers are all well-known experts in the field of EMS, public health, health care finance and Community Paramedicine. The meeting will help to introduce and explain the emerging field of Community Paramedicine, and how this new program is sure to impact both the economic and physical health of our communities.

Emergency Medical Services serves an important role in ensuring the safety and health of our community members. As you know, the traditional role of EMS is based around the principle of emergent care during a life-threatening emergency. EMS providers are called into a patient's life by activating the 9-1-1 system. However, the number of true emergencies is dwindling due to several factors including increased health disparities, shortages of primary care physicians and the proliferation of a number of chronic diseases. According to a recent study, nearly 40 percent of 9-1-1 calls can be characterized as non-emergent. Due to the fact that EMS systems are often left with no other options, EMS providers are forced to transport patients to hospitals despite there being no true need. This results in more hospital admissions, longer Emergency Department wait times and an overall draining of health care resources.

Community Paramedicine uses evidence-based practices to provide community members a more beneficial health care experience. Community Paramedics provide a cost-effective manner for some patients to receive care for certain ailments. Community Paramedics work with patients to refer them to their primary care providers if a complaint warrants an office visit, and/or provide in-home care when a hospital admission is not needed. Because Community Paramedicine is a relatively new concept, many questions arise when discussing the role of these nontraditional paramedic-level providers. For instance, what is the impact on health care dollars and patient outcomes? How many illnesses and injuries could be prevented if paramedics in our community took a more proactive approach to health? Would there be a decrease in unnecessary hospital readmissions? These are just a few of the important questions being posed by health care professionals, policy makers, patients and the public in communities where Community Paramedicine programs are being piloted.

Community Paramedicine is an innovative way to address a number of health-related concerns within our communities. By using existing EMS providers and systems, Community Paramedics are able to increase access to primary care providers, proactively convey the importance of preventive care, decrease Emergency Department overcrowding, save health care dollars, and improve the overall health and wellness of our patients. For further inquiry into this groundbreaking movement in health care, I would refer you to the following electronic resources: www.dphhs.mt.gov/ems/cp/DiscussionPaper.pdf, www.communityparamedic.org or www.ircp.org.

Given your expertise and involvement in our local community, I would like to invite you (or a designee) to Humboldt General Hospital's Community Paramedicine Stakeholders Meeting at 8:30 a.m. Tuesday, March 27. I am certain that you will be impressed by our expert speakers and the potential of this innovative program. Your participation is very important. Please RSVP by contacting me directly. Should you have any further questions regarding the Stakeholders Meeting or the Community Paramedicine program at Humboldt General Hospital, please feel free to contact me.

Professionally,

Pat Songer, NREMT-P
Director, HGHEMS/Rescue
(775) 304-0416

www.hghospital.ws
psonger@hghospital.ws

Support Letter: Example 3

Greetings everyone,

This has been an exciting year for Ada County Paramedics and the EMS profession. I am excited to say we are moving forward with our Community Paramedic initiative as introduced earlier this year as one of many potential solutions to health care reform. We are promoting up to 4 of our paramedics to work half of their time on this new program. These individuals will be instrumental in building the program from the ground up. We are planning a stakeholder's meeting for November 10th. We will be bringing in national speakers to discuss their Community Paramedic Programs and how we can best serve the Treasure Valley. Nothing is set in stone and we are holding this meeting to garner your additional input and further our partnership to help serve our communities as effectively and efficiently as we can. It will take time to plan, develop, and implement. Now is the time to have these discussions to best serve the needs of health care, public health, and public safety. I sincerely appreciate your input to date and your shared enthusiasm to roll out Community Paramedics here in the Treasure Valley.

The meeting is open to anyone wanting to attend. Feel free to forward or invite others who may be interested. A more detailed agenda will be sent in the coming few weeks. I sincerely hope you or your representatives can come to all or a part of this workshop.

Additional information about community paramedic programs can be found at www.communityparamedic.org or www.ircp.info

I look forward to seeing all of you on November 10th. Please RSVP if you can by acknowledging this invite.

Sincerely,

Troy

Troy M. Hagen, MBA, Paramedic

Director, Ada County Paramedics

Boise, Idaho

[\(208\)287-2962](tel:(208)287-2962)

thagen@adaweb.net

www.adaparamedics.org



**COMMUNITY
PARAMEDIC**

South Carolina

Community Paramedicine Fact Sheet

What is Community Paramedicine?

- Community Paramedicine is “an organized system of services, based on local need, which are provided by...Paramedics integrated into the local or regional health care system and overseen by emergency and primary care physicians.”¹
- Community Paramedicine represents one of the most progressive evolutions in the delivery of rural community-based healthcare by using Paramedics within their current scope of practice in an expanded role.

What Need is Addressed By Community Paramedicine?

- Weaknesses in South Carolina’s and the nation’s rural health care infrastructure are exacerbated by the persistent shortage of physicians, nurse practitioners and physician assistants that provide primary care for rural residents.
- Community Paramedicine programs allow Paramedics the ability to not only provide acute illness and injury care but to also proactively identify health risks, provide follow-up care to individuals, and monitor the community’s health^{1,2} thereby bolstering the health care infrastructure in small and rural communities.

What are the Benefits of Community Paramedicine?

- Leverages existing local resources to proactively support primary care in rural communities
- Emphasizes coordination and collaboration among all members of the local health care community
- Promotes person-centered health care and establishment of medical homes
- Lowers health care costs and improves access to and quality of health care
- Provides potential financial support for rural EMS agencies from these non-traditional EMS activities

How are Community Paramedics Trained?

- An internationally recognized and standardized curriculum with both didactic instruction and clinical trainings (Community Paramedic Curriculum 3.0) has been developed by the Community Healthcare Emergency Cooperative³.
- Interested students and educational institutions may contact the Cooperative for more information on currently available classes and support.

How are Community Paramedics Certified?

- There is not a distinct certification available for Community Paramedics in South Carolina. Pilot programs to evaluate the need for and effectiveness of this type of certification are in development.
- As the statewide regulatory agency for certification of all EMS personnel, the SC DHEC Division of EMS and Trauma is an integral partner in the pilot program process.

Where Can I Find Out More?

- <http://www.communityparamedic.org/>
- <http://www.nasemso.org/Projects/RuralEMS/documents/CPDiscussionPaper.pdf>
- <http://www.hrsa.gov/ruralhealth/pdf/paramedicevaltool.pdf>

South Carolina Office of Rural Health: info@scorh.net or 803-454-3850

South Carolina Office of
Rural Health

Community Paramedicine Budget Example

* This budget example in no way represents the actual numbers that should be applied in the line items. You *MUST* make this budget applicable to your Community Paramedicine program. Pay particular attention to the highlighted line items in the budget example.

	Year 1 1 FTE	Year 2 2 FTE	Year 3 3 FTE
Payroll Expense	Community Paramedic	Community Paramedic	Community Paramedic
Salaries	75,000	150,000	220,000
FICA	-	-	-
Medicare Tax	1,200	1,800	3,400
State Unemployment	200	300	450
Workers Comp	8,000	8,000	8,000
Retirement	7,500	15,000	25,000
Health Insurance	12,000	24,000	36,000
Overtime	4,500	7,000	12,000
Total Payroll Expense	\$ 108,400	\$ 206,100	\$ 304,850
Operations Expense			
Accounting Fees	-	-	-
Bank Charges	-	-	-
Board Reimbursement	-	-	-
Building Repairs	-	-	-
Communications Equipment	1.00	-	-
Computer Equipment	2.00	-	2
Dues & Subscriptions			
Election Costs	-	-	-
Emergency Reserve (3%)	-	-	-
Gas and Oil	10.00	10.00	10.00
Insurance	25.00	25.00	25.00
Lease Interest	-	-	-
Lease Principal	-	-	-
Legal Fees	-	-	-
Maintenance Contracts			
Medical Direction Fee	-	-	-
Medical Equipment & Supplies	32.00	32.00	32.00
Misc Expenses	-	-	-
Office Supplies & Postage	-	-	-
Public Relations	6.00	6.0	6.0
Telephone	3.60	3.6	3.6
Training (Initial)	5.00	-	-
Training (Medical & EMS Director)	20.00		
Training (Continuing)	-	5,000	5,000
Transport Expense	-	-	-
Travel	5,000	5,000	5,000
Uniform	500	500	500
Utilities	-	-	-
Vehicle Repair & Maintenance	2,500	2,500	2,500
Total Operating Expenses	\$ 8,105	\$ 13,077	\$ 13,079
Capital Expense			
Capital Purchases (Ambulance)	25,800	-	-
Other	12,000	-	-
Construction Fund	-	-	-
Total Capital Expenses	37,800	-	-
Total Expenses	\$ 154,305	\$ 219,177	\$ 317,929

Community Paramedic Job Description Example

Overview

A Paramedic has certification and/or licensure as a Paramedic and provides advanced-level medical care. A Community Paramedic supports existing health services by providing integrated health services in partnership with other health professionals. He or she also extends access to health services delivery in underserved and general populations, including primary care, public health, disease management, prevention, and wellness.

Requirements

Successful completion of didactic and clinical coursework for Community Paramedics.

Core Duties

- Performs essential functions of a paramedic
- Examines, screens, treats and coordinates health services for patients
- Conducts post-hospital release follow-up care including, but not limited to, monitoring medication, dressing changes, and checking vital signs
- Observes, records, and reports to physician as to patient's conditions and reactions to drugs, treatments, and/or significant incidents
- Conducts patient education, including diabetes prevention/treatment, hypertension, Congestive Heart Failure (CHF), Chronic Obstructive Pulmonary Disease (COPD), falls assessment, injury evaluation, geriatric frailty visits, and nutrition
- Administers patient care consistent with department protocols and physician orders
- Coordinates appointments and follow-up with physicians and hospitals
- Develops and completes appropriate reports and templates for the Community Paramedic Program
- Attends meetings as requested and available
- Participates in trainings to maintain competencies of Community Paramedic
- Provides training to personnel as requested
- Performs other related functions as assigned

South Carolina Paramedic Skills

SC EMT-PARAMEDIC SKILLS

All EMT-Paramedic candidates who successfully complete a SC approved EMT-Paramedic course which uses the current DOT EMT-Paramedic curriculum, successfully pass the National Registry EMT-Paramedic (i.e. SC State Paramedic written and practical examinations) and receive subsequent SC certification as an EMT-Paramedic are authorized to perform the following skills: (All skills are inclusive of adult and infant unless otherwise stated).

- All skills listed under SC EMT-Basic
- All skills listed under SC EMT-Intermediate
- Endotracheal Intubation
- Medication Administration
 - Sub Q Injection
 - IM Injection
 - IV Push
 - IV Drip
 - Endotracheal Tube
 - Rectal
- Pleural Decompression (Adult & Pediatric)
- Gastric Lavage
- Vagal maneuvers
- EKG Monitoring and Rhythm Identification to include 12-lead (Optional for 12-lead)
- Defibrillation
- Cardioversion
- External Pacing
- Rapid Sequence Induction
- Monitoring approved interfacility drugs
- Managing cardiac patients per current ACLS standards

NOTE: ALL ADDITIONAL SKILLS LISTED ABOVE FOR THE EMT-PARAMEDIC MAY ONLY BE PERFORMED WHEN THE EMT IS AFFILIATED WITH A SC LICENSED AMBULANCE PROVIDER UNDER THE AUTHORITY (ON-LINE OR OFF-LINE) OF THE PROVIDER'S MEDICAL CONTROL PHYSICIAN.

Approved Skills (revised 12/2009)

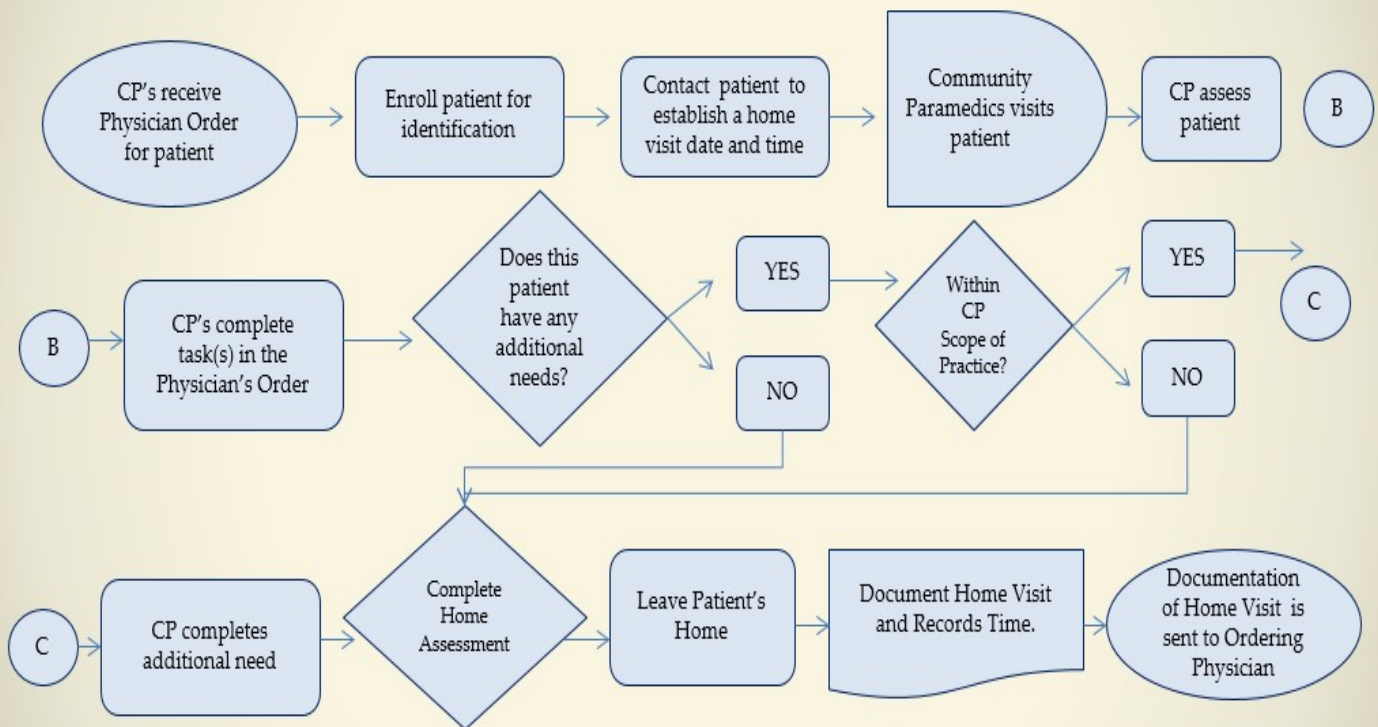
Medical Control Scope of Duties Example

EXHIBIT A SCOPE OF SERVICES

The following services will be performed within the scope of the Community Paramedic Program.

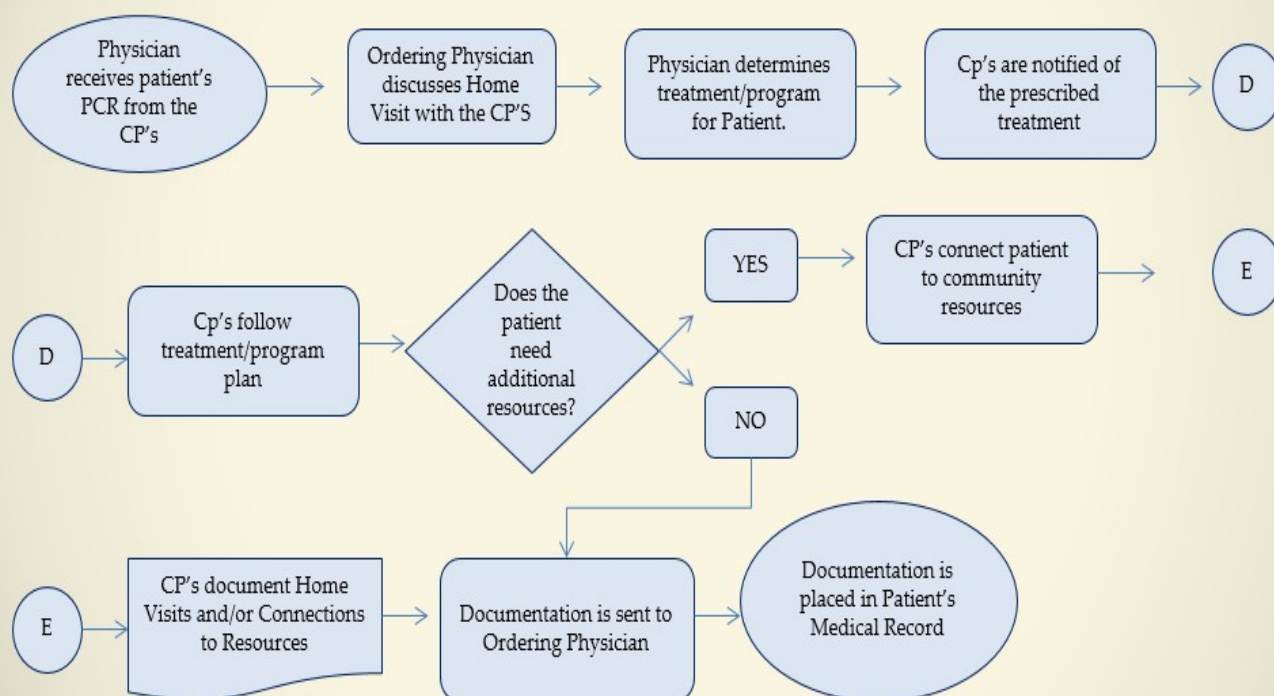
1. Provide clinical supervision of up to 5 Community Paramedics.
2. Provide clinical direction in the development of protocols, policies and procedures.
3. Assist in the ongoing development and implementation of a quality improvement and assurance system.
4. When appropriate, outreach to other physicians to increase the network of medical providers participating in the community paramedic program.
5. Participate on and provide leadership to the Community Paramedic Advisory Committee.
6. Work with Dr. _____ to ensure quality of care and continued oversight.
7. Safeguard protected health information of individuals and the confidentiality of situations for which Physician's consultation is requested, in accordance with the rules of _____ and the Health Information Privacy and Accountability Act.
8. Comply with appropriate standards of customer service to the public and provide appropriate consultation in the development and implementation of Community Paramedic protocols to promote the maintenance of high standards of customer service and professionalism.

CP Home Visit



"Dedicated to providing access to quality health care in rural communities"

Follow Up





Unique Patient ID: _____

Date: _____

Conducting Home Visit: _____

Initial Home Visit Checklist

	YES	NO	N/A		
1a) Did you complete the Home Health Eligibility Assessment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	YES	NO	N/A		
1b) Is the CP patient eligible for Home Health Services?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
If N/A, please explain: _____					
	CHF	DM	HTN	COPD	Falls
2a) What is the CP Patient's Diagnosis? (Check all that apply)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	YES	NO	N/A		
2b) Does the CP Patient have comorbidities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
If N/A, please explain: _____					
	CHF	DM	HTN	COPD	Falls
3a) What Diagnosis Protocol has Dr. Scott placed the CP Patient in? (Check all that apply)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	YES	NO	N/A		
3b) Have you explained the Physician Prescribed Protocol and how the protocol relates to their Plan of Treatment ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
If N/A, please explain: _____					
	YES	NO	N/A		
4) Have you explained and given the Patient Binder to the CP Patient?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
If N/A, please explain: _____					
	YES	NO	N/A		
5a) Have you collected an Active Rx Medication List from the CP patient?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
If N/A, please explain: _____					
	YES	NO	N/A		
5b) Have you discussed Medication Compliance with the CP patient?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
If N/A, please explain: _____					
	YES	NO	N/A		
5c) Have you completed Medication Reconciliation to establish the most complete and accurate medication list for enrolled CP patients.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
If N/A, please explain: _____					
	YES	NO	N/A		
6) Have you completed the Home Safety Assessment:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
If N/A, please explain: _____					

Community Paramedicine: A Promising Model for Integrating Emergency and Primary Care

Community Paramedicine:

A Promising Model for Integrating Emergency and Primary Care

Authors

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Karen shore, PhD

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Aimee Moulin, MD

Assistant Professor, Department of Emergency Medicine, UC Davis School of Medicine

Report prepared for the California HealthCare Foundation and California Emergency Medical Services Authority in partial fulfillment of the Leveraging EMS Assets and Community Paramedicine Project funded by the California HealthCare Foundation (Grant Number 17119, Regents of the University of California).

July 2013

Introduction

Community paramedicine (CP) is a new and evolving model of community-based health care in which paramedics function outside their customary emergency response and transport roles in ways that facilitate more appropriate use of emergency care resources and/or enhance access to primary care for medically underserved populations.¹ CP programs have been independently developed in a number of states and countries, and thus are varied in nature. These programs typically have been designed to address specific local problems and to take advantage of locally developed collaborations between and among emergency medical services (EMS) and other health care and social service providers. Interest in this model of care has grown substantially in recent years in the belief that it may improve access to and quality of care while also reducing costs.

Historically, EMS has focused on providing emergency treatment for persons suffering acute medical problems in community settings, while transporting such persons to a hospital emergency department (ED), and when needed, in the ED until care is taken over by hospital staff. EMS personnel also have been utilized to transport ill or injured persons between hospitals.

The inherent nature of emergency care makes it more expensive than many other types of health care services. EMS systems and hospital EDs must be prepared to handle a wide array of routine and unusual problems that occur unexpectedly and often require a rapid response with specialized skills and equipment because the problems are serious and sometimes life threatening. Consequently, the fixed costs associated with operating and maintaining emergency care services are high.

As concern about rising health care costs has grown in recent years, increased efforts have been directed at ensuring that expensive emergency care resources are optimally utilized. Also, because the overwhelming majority of EMS systems rely on fire departments and other publicly funded agencies to provide at least some services, and because most local governments are under significant financial strain, local EMS providers have increasingly sought to secure additional sources of financial support. Early experiences with CP programs suggest that they may lead to more optimal use of EMS assets and offer some potential for diversification of the EMS funding base. In particular, CP programs may result in:

1. **More appropriate use of emergency care services.**

Perhaps the best demonstrated benefit of CP programs has been in getting persons who have accessed the EMS system, but do not have a medically emergent condition, to more appropriate destinations than a hospital ED. This may yield financial savings and, in some cases, improve the coordination and continuity of care.

2. **Increased access to primary care for medically underserved populations.**

Some CP programs have provided solutions to primary care problems that were otherwise not being well addressed. For example, some CP programs provide short-term (e.g., within 72 hours of discharge) follow-up home visits for patients who have just been discharged from a hospital or ED until other providers are able to provide the home visits or other follow-up care. Such follow-up care may help prevent ED or hospital readmissions.

3. **Enhanced opportunities for EMS personnel skills development and maintenance.**

CP programs aimed at providing primary care for medically underserved populations may also provide opportunities for EMS personnel in low-call-volume settings (e.g., rural areas) to further develop patient assessment skills, as well as more frequently utilize their basic skills. This helps them maintain their skills and expand their clinical experience.

Recognizing the widening gap between the demand for health care services and California's supply of health care workers, and of the need for health care resources to be optimally utilized, including providers working as much as possible at the top of their skills, the California HealthCare Foundation and California Emergency Medical Services Authority (EMSA) asked the Institute for Population Health Improvement (IPHI), University of California Davis Health System, to assess the feasibility of developing community paramedicine programs in California.² They asked IPHI to explore whether use of paramedics in expanded roles might be a practical option for California communities to consider when addressing health care needs in coming years.

This report provides a brief history of EMS systems and paramedicine in California, a broad overview of the development

of community paramedicine in other states and countries, a summary of current perspectives on CP in the state based on interviews with key stakeholders, and a discussion of the barriers to implementing CP programs in California. We conclude the report with several recommendations for further exploration of the role of community paramedicine in California.

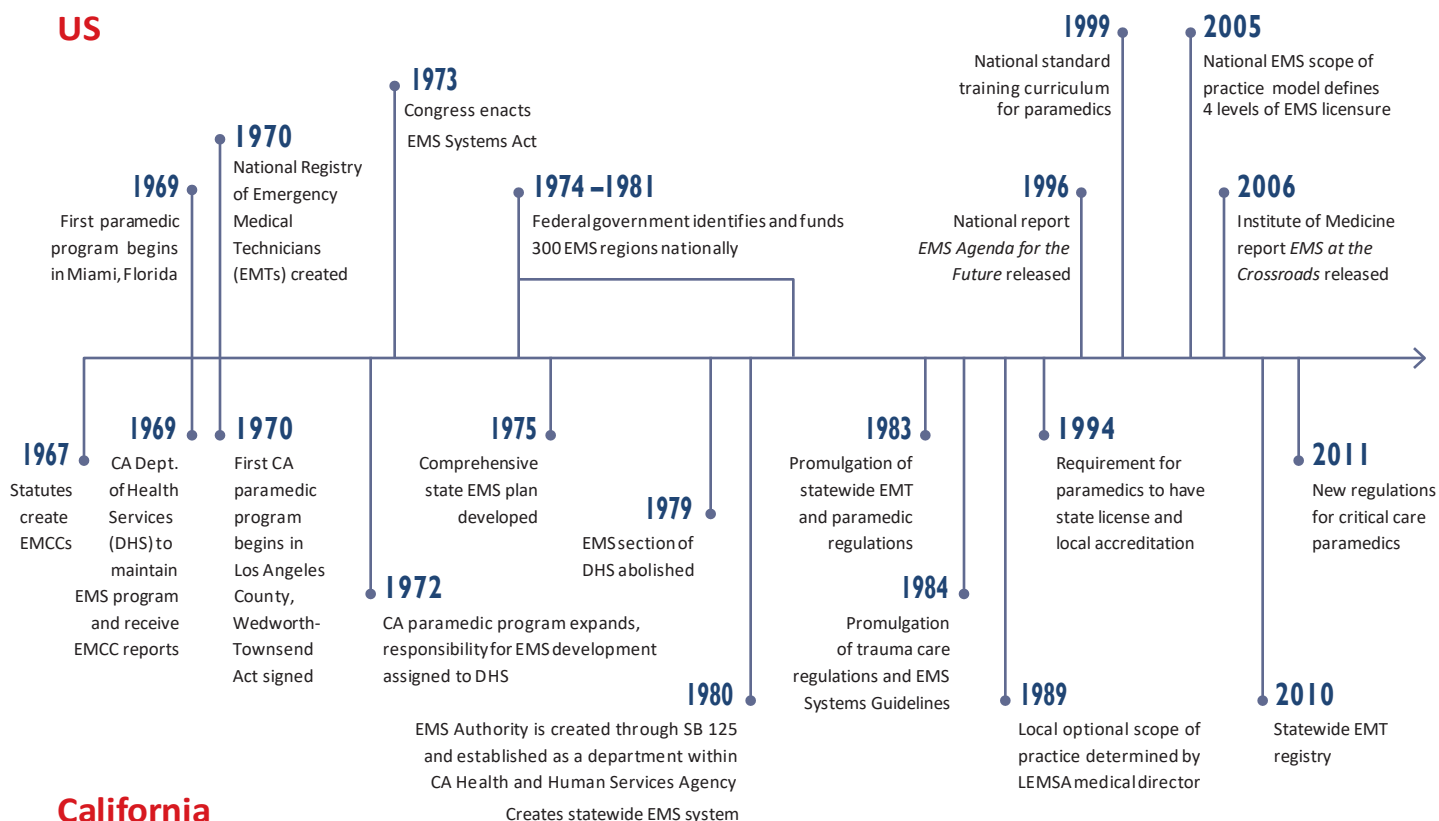
The Evolution of Emergency Medical Services in California

The term paramedicine refers to public health or health care–related activities performed by nonphysicians working as adjuncts or assistants to doctors. Paramedicine has been used most often to refer to emergency medical care provided outside of hospitals, although it is by no means limited to emergency care. The history of emergency care paramedicine is especially linked to military medicine and dates back to the Roman legions, when aging centurions no longer able to fight were used to provide aid to and remove wounded warriors from the battlefield.

The evolution of modern paramedicine and EMS in California began in the late 1960s, concomitant with the growing awareness in the state and nation of the alarmingly high number of out-of-hospital deaths from trauma and cardiac arrest.³ A pilot project using mobile intensive care paramedics was formally launched in Los Angeles County in early 1970. The Wedworth-Townsend Paramedic Act, which defined the role and scope of practice of mobile intensive care paramedics and nurses, was signed into law by then governor Ronald Reagan on July 14, 1970. It made California the first state to adopt legislation permitting paramedics to provide advanced medical life support.⁴ The LA County paramedic pilot program was expanded in 1972, and other California counties soon began to develop EMS programs.

Responsibility for coordinating EMS development in the state was initially assigned to the EMS Section of the then California Department of Health Services (DHS). However, the department did not place a high priority on EMS and found itself increasingly at odds with the state’s growing EMS community. DHS abolished

Figure 1. Timeline of EMS Milestones in the US and California



Note: EMCC = emergency medical care committee, LEMSA = local EMS agency.

its EMS Section in 1979, resulting in counties becoming the focal point of EMS systems development and leading to enactment of legislation in 1980 creating a new standalone EMS Authority within the then California Health and Welfare Agency.⁵ EMSA was charged with being the lead state agency for emergency and disaster medical services, although DHS retained responsibility for many aspects of emergency and disaster public health and medical response.

State regulations establishing training and other standards for paramedics were promulgated by EMSA in 1983. These were followed in 1984 by statewide guidelines for local EMS systems, standards for local trauma care systems, and training standards for other EMS providers.⁶ These standards and guidelines have been incrementally revised and updated over the years, but the regulatory framework established in the early 1980s has remained the basic foundation for the state's EMS systems. Figure 1 (page 3) provides a timeline of key EMS milestones in the US and California.

EMS activities in California are regulated at the state level by EMSA pursuant to Division 2.5, California Health and Safety Code, and Division 9, Title 22, California Code of Regulations. EMSA is one of 13 departments administered by the California Health and Human Services Agency. Day-to-day EMS activities are

governed by local EMS agencies, which follow state regulations and standards established by EMSA. Currently, there are 25 single-county and 7 multicounty local EMS agencies in California (see Appendix A).

EMSA is statutorily authorized to develop and implement regulations governing the medical training and scope of practice for emergency medical care personnel, including emergency medical technicians (EMTs), public safety personnel (e.g., firefighters, law enforcement officers, lifeguards), and mobile intensive care nurses, among others. EMTs are trained according to state standards and then licensed (paramedics) or certified (basic and advanced EMTs) to render emergency medical care in pre- and inter-hospital settings.⁷

There are three levels of EMTs in California: basic (EMT), advanced (A-EMT), and paramedic (EMT-P). Paramedics are trained and licensed in advanced life support skills, including endotracheal intubation and selected other invasive procedures, as well as the intravenous and intramuscular administration of medications. They are typically employed by public safety agencies (e.g., fire departments) or private ambulance companies. Requirements for EMT and paramedic initial training and continuing education are listed in Figure 2, and the skills and activities in the scope of practice for EMTs and paramedics is summarized in Figure 3.

FIGURE 2. Education and training requirements for California EMTs

	Emergency Medical Technician (EMT)	Advanced EMT	Paramedic
Minimum Requirements	18 years of age	18 years of age, high school diploma or equivalent, EMT certification, CPR card	18 years of age, high school diploma or equivalent, EMT certification
Training	160 hours of training: <ul style="list-style-type: none"> • 136 didactic • 24 clinical 	160 hours of training: <ul style="list-style-type: none"> • 80 didactic and skills lab • 40 clinical • 40 field internship 15 Advanced Life Support patient contacts (minimum)	1,090 hours of training: <ul style="list-style-type: none"> • 450 didactic and skills lab • 160 clinical • 480 field internship 40 Advanced Life Support patient contacts (minimum)
Exams	National Registry of EMTs, written and skills	Local EMS agency, written and skills	National Registry of EMTs, written and skills
Certification / License	Certified by local EMS agency or public safety agency, recognized statewide	Certified by local EMS agency, only valid locally	Licensed by EMS Authority, recognized statewide Accreditation by local EMS agency
Renewal	Recertification every 2 years by: <ul style="list-style-type: none"> • 24-hour refresher course, or • 24 hours continuing education units and 10 skill competencies 	Recertification every 2 years by: <ul style="list-style-type: none"> • 36 hours continuing education units and 6 skills competencies 	License renewal every 2 years by: <ul style="list-style-type: none"> • 48 hours continuing education units Note: Certified paramedics in other states or counties or NREMT registries must provide documentation and fill out an application to become a licensed California paramedic

Source: EMSA, 2013.

Services by EMTs and paramedics are provided under medical control (typically by an emergency physician) through pre-established, locally approved medical policies and protocols and through direct linkage to locally designated hospital EDs (base hospitals). These services are typically initiated by a telephone call to 911 or other emergency telephone number. See Appendix B for a depiction of the current typical EMS response to a 911 call for emergency assistance.

Paramedics became a statewide *licensed* health care practitioner in California in 1994. Licenses are issued by EMSA and are valid statewide, but paramedics must be accredited by a local EMS agency before practicing. Licensure by EMSA must be renewed every two years. In contrast, EMTs and A-EMTs are *certified* by local EMS agencies, and they must be recertified every two years. EMT certifications are valid statewide, but EMTs can only work in areas after they are certified by a local EMS agency.

Paramedics are now widely distributed throughout California but are more prevalent in urban areas. In 2010, there were approximately 19,000 licensed paramedics and nearly 60,000 EMTs in California.⁹ There were approximately 3 million prehospital emergency ambulance responses in California in

2011.⁹ Nationally, there were approximately 826,000 credentialed EMS professionals in 2011, including EMTs (64%), advanced EMTs (6%), and paramedics (24%).¹⁰

EMS systems are universally regarded as being an essential part of the health care delivery system today. However, they operate at the intersection of health care, public health, and public safety and generally have not been well integrated into the

Definition: SCOPE of PRACTICE

Refers to the “defined parameters of various duties or services that may be provided by an individual with specific credentials. Whether regulated by rule, statute, or court decision, it represents the limits of services an individual may legally perform.”

— NHTSA Report:
National EMS Scope of Practice Model (2005)

FIGURE 3. skills and Activities Included in the scope of Practice for California EMTs

Paramedic

MINIMUM SCOPE Authorized to do the following while caring for patients in a hospital during training under physician, RN, or PA supervision, at the scene of an emergency, during transport of patients, or while working in a small and rural hospital:

- All EMT and AEMT skills and medications
- Laryngoscope
- Endotracheal (ET) intubation (adults, oral)
- Valsalva's Maneuver
- Needle thoracostomy and cricothyroidotomy
- Paramedic Advanced Life Support

OPTIONAL SKILLS (added at the LEMS level by approval of the LEMS medical director):

- Local EMS agencies may add additional skills and medications if approved by the CA EMS Authority

health care delivery system because of their overlapping roles and responsibilities. The Institute of Medicine highlighted this problem in a 2006 report, noting that “local EMS systems are not well integrated with any of these groups and therefore receive inadequate support from each of them.”¹¹ The incentives for care coordination and greater use of community-based care provided by the Affordable Care Act present an opportunity for greater integration of EMS into the health care delivery system through new models of care such as community paramedicine.

Funding for Local EMS services

Funding to support local EMS services comes from diverse public and private sources, including state and municipal taxes, state and federal grants, philanthropic and charitable donations, in-kind contributions, subscription programs, individual self-payment, and fee-for-service payments from Medicare, Medicaid, and private health insurance. In addition to the above sources, California counties may designate a portion of traffic fines to support EMS services for uninsured persons — known as the Maddy EMS fund.¹² Funding for local EMS agencies is often derived primarily from revenues generated from patient transport, and is therefore dependent on the number of transports and the payer mix. One national estimate of funding sources indicated that “an average EMS agency receives 42% of its operating budget from Medicare fees, 19% from commercial insurers, 12% from Medicaid, and 4% from private pay; it requires approximately 23% in additional subsidization, most often provided by local taxes.”¹³ There is no central data source that tracks funding sources for California’s local EMS agencies, so California-specific data are not readily available.

Payments from commercial payers, and to a lesser extent Medicare, have historically been used to subsidize the costs of treating Medicaid and uninsured patients. Medicare plays a significant role both in revenues for local EMS agencies and in payment policy. Because individuals age 65 and over are four times more likely to use EMS services than younger individuals, Medicare represents a large proportion of utilization and revenues for local EMS agencies.¹⁴ In California, for example, Medicare patients account for about 35% of all ambulance transports and 25% of reimbursements. Medi-Cal patients account for about 21% of ambulance transports and only 5% of reimbursements. Much of the cross-subsidization in California comes from commercial health plans, whose patients represent

18% of transports and 38% of reimbursements.¹⁵ Medicare has shaped the provision of EMS through policies requiring patient transport for payment, a practice other payers have followed.

“at the very broadest level, the health care system is ill-equipped to take care of the volume of patients and provide the care needed. We have to deliver health care and bring about health in new ways.”

— stAtE AgENCy oFFICIAL

Changing EMS and Health Care Environments in California

The overall health care environment of California and the state’s health care delivery system are rapidly changing due to efforts to control health care costs, improve care quality and service, deploy health information and advanced telecommunication technologies, and implement the Affordable Care Act, among other reasons. A description of the myriad activities in this regard is beyond the scope of this report; however, the widening gap between the demand for health care services and the supply of physicians and other health care workers to provide such services is especially pertinent to the consideration of community paramedicine.¹⁶

California has experienced and for the next few years will continue to experience a significantly increased demand for health care services. This increased demand is being driven primarily by population growth and aging, the rising prevalence of chronic diseases, and increased health insurance coverage consequent to the Affordable Care Act. An additional 3.4 million Californians are expected to be covered by health insurance by 2016.¹⁷ At the same time that the demand for health care services is sharply rising, the workforce to supply those services is shrinking due to aging, health care cost control strategies, and growing dissatisfaction with private practice among physicians,

among other causes. The number of physicians graduating from the state's eight medical schools has not materially increased in recent years, and about a third of California's physicians are age 60 or over.¹⁸ Some counties are anticipating that a quarter or more of currently practicing physicians will retire in the next five years. The gap between health care service demand and health care provider supply is widening the most in rural and other medically underserved communities.¹⁹ This growing gap raises the specter of an impending health care access crisis. Ironically, instead of being driven by the lack of health insurance, this impending access crisis is due in significant part to the increased availability of insurance.

To mitigate the gap between the demand for services and the workforce available to provide those services, it is essential to optimally utilize all caregivers. This will require that all providers work at the top of their training and skills. In addition, more needs to be done to coordinate and integrate services across the continuum of care and to increase the number of caregivers. Using paramedics in expanded roles to address locally determined community health needs may be a promising opportunity to leverage an existing caregiver resource to address identified needs and provide overall greater value.

History and development of Community Paramedicine

In recent years, a number of community-based programs have been developed that utilize paramedics in roles or settings outside their traditional emergency response and transport roles. These CP programs have been implemented in a number of states in the US (e.g., Colorado, Minnesota, Texas) and other countries, including Canada, England, and Australia. The implementation, operational costs, and outcomes of these programs in the US are still being assessed, and little data is available at this time.²⁰ There is a longer history and more literature on the outcomes of CP programs in other countries, but differences in methods of financing and delivering care in these countries make it difficult to generalize the findings to the US. Interest in developing CP programs has been especially high in rural and other medically underserved areas.²¹

Utilizing paramedics in expanded roles is attractive because they are already trained to perform patient assessments and to recognize and manage life-threatening conditions in out-of-hospital settings. They are accustomed to providing care

in home and community settings under relatively austere medical care conditions, are available 24/7/365, and are widely trusted and respected by the public. Further, paramedics are accustomed to collaborating with other health care providers in a variety of settings.

There are multiple definitions of community paramedicine, but most embrace three key tenets:²²

1. CP programs begin with a community-specific health care needs assessment.
2. Community paramedics are specially trained to provide services to meet those local needs.
3. Community paramedics provide services under clear medical control (i.e., under a physician's direction and supervision).

Definition: MEDICAL CoNTRoL

Physician direction over prehospital activities to ensure efficient and proficient trauma triage, transportation, and care, as well as ongoing quality management

— NhtsA rEPort:
trauma SyStEM agENda for thE futurE (2002)

In this report, the following working definitions are used:

- **Community paramedicine** is a locally designed, community-based, collaborative model of care that leverages the skills of paramedics and EMS systems to address care gaps identified through a community-specific health care needs assessment.
- A **community paramedic** is a paramedic with additional standardized training who works within a designated community paramedicine program under local medical control as part of a community-based team of health and social services providers.

*“EMS should be doing more in health care;
we should be part of the solution.”*

— EMS ProvidEr

A number of principles underlie the structure and goals of CP programs. These principles are briefly described below:

- Community paramedicine programs are *not intended to duplicate or compete with other community health care services*, but rather are intended to fill identified gaps in care working in collaboration and partnership with existing health care providers.
- Community paramedics would be licensed, as are all paramedics in California. *They would not be independent practitioners*, but rather would work under approved protocols and a physician’s direction (i.e., under “medical control”).
- Community paramedics would *undergo additional education and training*, the exact requirements of which would depend, in part, on the objectives and scope of the CP program. At least one standardized curriculum for community paramedics is publicly available.²³ Communities also could tailor additional education to address local needs. Training would occur in the various settings in which community paramedics would potentially work with collaborating providers, including primary care clinics, physician offices, nursing homes and other long term care facilities, substance abuse treatment programs, and mental health facilities, among others.
- It is expected that the *additional training will provide community paramedics with enhanced decision-making skills to prepare them for expanded clinical decision-making responsibilities*. When they are providing services in the community, they would be supported through protocols, and direct online (telephone or video) medical control would be available.

- It is likely that *only a small percentage of more experienced paramedics would become community paramedics*.
- Medical control for community paramedics may involve other types of physicians (e.g., general internists, family practitioners, pediatricians, geriatricians) in addition to emergency medicine physicians, depending on the type of services being provided in the CP program.
- The goal of CP programs would be to *get the patient to the right care, delivered by the right provider, at the right time, resulting in the best outcomes and most efficient use of the region’s health care resources*, as specified in the Affordable Care Act.

Components of Community Paramedicine Programs

A variety of services and activities have been included in CP programs in other states and countries. Six services have been selected for this report, and these can be divided between prehospital and post-hospital or community health services (see Figure 4). Each is described in detail in Figures 5–10.

Figure 4. Potential Community Paramedicine Services

Prehospital Services

- Transport patients with specified conditions not needing emergency care to alternate, non-emergency department locations.
- After assessing and treating as needed, determine whether it is appropriate to refer or release an individual at the scene of an emergency response rather than transporting them to a hospital emergency department.
- Address the needs of frequent 911 callers or frequent visitors to emergency departments by helping them access primary care and other social services.

Post-Hospital or Community Health Services

- Provide follow-up care for persons recently discharged from the hospital and at increased risk of a return visit to the emergency department or readmission to the hospital.
- Provide support for persons with diabetes, asthma, congestive heart failure, or multiple chronic conditions.
- Partner with community health workers and primary care providers in underserved areas to provide preventive care.

Prehospital Services

1. Transport patients with specified conditions not needing emergency care to non-ED locations (“alternate locations”) such as a mental health facility, sobering center, urgent care clinic, or primary care physician’s office. A program in San Francisco to address the needs of chronic inebriates is described in Case Study 1 (page 14). Figure 5 summarizes the opportunities and challenges associated with this activity.

2. After assessing and treating as needed, determine whether it is appropriate to refer or release an individual at the scene of an emergency response rather than transport the person to a hospital ED. In the 1990s, the Orange County EMS agency in North Carolina had a treat-and-release policy, so for situations not requiring emergency care, patients could either be treated at home and follow up with their doctor, or the paramedics would arrange for alternative care. Current

Figure 5. Community Paramedics (CPs) Transporting Patients to Locations Other Than the Hospital Emergency Department

Opportunities

Overarching: Method for getting right level of care to patients in an efficient, effective, and timely manner. May reduce crowding in some emergency rooms.

- Many patients may be treated appropriately in a location other than a hospital emergency department (e.g., patients with minor upper respiratory infections, chronic inebriates).
- Means of getting patients to services they need more quickly and efficiently. Reduction and/or elimination of secondary transfers or referrals if the individual is taken to the most appropriate treatment facility initially.
- May reduce overcrowding in EDs if fewer patients with non-emergent conditions are there, potentially reducing costs and making more efficient use of ED resources. May also reduce ED diversion rates and EMS wait times.
- CPs would be connected to other community resources where appropriate treatment could be obtained by patients not needing ED level of care.
- Use of technology such as telehealth consultations could help to ensure accurate assessment of patients, particularly in rural, underserved areas.
- Patients may prefer being taken to a facility where they can immediately obtain the appropriate level and type of care, and they may perceive improvements in the quality of service.

Challenges

Overarching: CPs must be well trained to assess patients in the field using protocols and must have access to online medical experts, and state regulations must be changed.

- CPs will need additional training and protocols for patient assessment, along with greater online medical control for consultation on patients, since potential for error is greater than current practice of transporting all patients to EDs, where they are evaluated by ED staff.
- Need for viable alternate locations for patients to be transported to; often, there are limited resources in communities for mental health care, substance abuse treatment, urgent care, and primary care. Need exchange of data with all providers and quality assurance/improvement processes in place.
- Need appropriate medical condition evaluation prior to transport to an alternate facility.
- Difficult to accurately assess complex patients (e.g., those with psychological or substance abuse issues) with the potential of underlying medical conditions.
- Because the current system takes everybody to a hospital ED, transport to alternate locations may be seen by patients as lower-quality care. Appropriate education is needed so the public accepts that this approach is beneficial.
- May result in overutilization of transportation resources by patients.
- Need to change statute and regulations to allow transport of patients to non-ED locations and to allow community paramedics to practice in locations other than those currently specified.

EMS practice at times involves a form of treat and release where 911 callers decline transport against medical advice, sometimes apparently at the informal suggestion of emergency responders. However, adequate records are not kept to indicate how widespread this practice is. See Figure 6 for the opportunities and challenges associated with this activity.

- 3. Assist frequent 911 callers or frequent visitors to EDs to access primary care and other social services,** as this will improve the efficiency of 911 service. A program in San Diego that leverages technology to help connect frequent 911 callers to health care and social services is described in Case Study 2 (page 14). See Figure 7 (page 11) for the opportunities and challenges associated with this activity.

Post-Hospital or Community Health Services

- 4. Provide support for persons who have been recently discharged from the hospital and are at increased risk of a return visit to the ED or readmission to the hospital.** Some recently discharged patients may have difficulty following their medical care regimen and for various reasons do not have family or other social services support. These patients may suffer from congestive heart failure, diabetes, asthma, or multiple chronic conditions and would benefit from close monitoring to prevent readmission or need for emergency intervention. See Figure 8 (page 11) for the opportunities and challenges associated with this activity.

Figure 6. Assess, Treat as Needed, and Refer or Release by Community Paramedics

Opportunities

OverARCHing: Improve patient care by treating at home or at incident site, and then releasing patient or referring for additional care in non-ED setting; potential for systemwide cost savings when patient is not transported to an emergency department.

- Ambulances are often sent in response to nonemergency situations; community paramedics could assess patients, treat and release them if appropriate, or if needed, refer patients to providers other than the ED.
- For nonemergency situations, care may be administered appropriately in settings other than the ED that are less expensive. There would potentially be lower costs for patients, insurers, and the health care system overall.
- Frees up resources for patients in the ED who need emergency care.
- CPs would be connected to other community resources where they could refer patients not needing ED level of care for appropriate treatment.
- Provides formal policy and protocols with training and accountability for CPs working with patients in nonemergency situations, versus current informal suggestions that these patients decline transport against medical advice (AMA).

Challenges

OverARCHing: Risk and liability associated with inaccurate evaluations by CPs. Need for protocols to ensure that all patients are treated equally and that none are denied care.

- CPs will need protocols for patient assessment, along with greater online medical control for consultation on patients, since potential for error is greater than current practice of transporting all patients to EDs, where they are evaluated by ED staff.
- Can be challenging to make accurate patient assessment with incomplete information about patient's condition. Electronic transfer of health information would help improve decision-making related to patient assessment.
- Necessary for CPs to be sufficiently trained and know limitations of decision-making and liability. Medical directors may incur extra liability.
- Patients and families could think care is being inappropriately denied, potentially based on patient characteristics. CPs will need to be alert to equity in patient care.
- Need to change statute and regulations to allow community paramedics to treat and release or refer and to change policies to allow payment for care that does not involve transport of patients to EDs.

FIGURE 7. Community Paramedics Addressing Needs of Frequent 911 Callers

opportunities

ovErArChINg: *potential to improve patient care and reduce inappropriate use of EMS resources.*

- Paramedics are often very familiar with frequent 911 callers, who in addition to their medical conditions, often have mental health or substance abuse issues, are homeless, or are in need of other social services.
- CPs would be connected to other community resources where patients could obtain assistance to address basic needs such as housing, food, and utilities, as well as to obtain care for their medical, mental health, or substance abuse conditions.
- Patients whose basic needs are met would potentially be better able to interact with the health care system and to manage their own care. Lower and more appropriate use of EMS resources, through fewer 911 calls and fewer ED visits, could result.

Challenges

ovErArChINg: *assessment and treatment of patients with complex social and medical care needs requires additional training and collaboration with a wide variety of providers.*

- CPs will need additional training with protocols for patient assessment, and greater online medical control will be needed for consultations on patients with complex social and medical care needs.
- Extensive coordination will be required so that assessment, treatment, and referral efforts by CPs, hospital discharge planners/ social workers, and social service employees are complementary and not duplicative. Electronic systems to allow for identification of frequent users and for exchange of medical records will be needed.
- These services should be structured so as to not detract or interfere with rapid response to 911 calls.
- Need to change statute and regulations to allow community paramedics to determine to transport 911 callers to alternative destinations and to refer them to other providers, and change policies to allow payment for care that does not involve transport of patients to EDs.

FIGURE 8. Community Paramedics Providing Follow-up Care for Patients recently Discharged from the hospital

opportunities

ovErArChINg: *potential to improve patient care and reduce hospital readmissions by bridging gaps in care.*

- CPs can serve as an integral part of the patient's care transition team. Patients recently discharged from a hospital may benefit from assistance prior to regular scheduled follow-up care in understanding post-discharge instructions, medications, self-care, and the timing and importance of follow-up appointments. CPs could review these with patients and, if applicable, their families. The CP could ensure there is a safe home environment for the patient to recover in, and could provide feedback to primary care and emergency care providers about the patient's function at home. These types of activities could improve patient follow-up and integration in the health care system and overall quality of patient care, and may reduce 911 calls, ED visits, and hospital readmissions.
- Patients and their families would have a resource (CP or 911) for any immediate needs.
- Care provided by CPs would be ordered by the discharging physician and designed to complement care from other health care providers, with the goal of improved communication and coordination among providers, leading to better patient care.

Challenges

ovErArChINg: *Management of patients with complex medical conditions requires extensive collaboration and communication with other providers.*

- CPs will need additional training with protocols for patient assessment, and there will need to be greater, and potentially additional types of online medical control (i.e., emergency physicians and primary care physicians or other specialists) for consultation on patients with complex medical conditions.
- Electronic systems to allow for exchange of records and other information between CPs and other primary care, specialty care, and emergency care providers will be needed. Exchange of information across state lines may be challenging.
- Need to change statute and regulations allowing community paramedics to provide services in additional situations, and change policies to allow payment for care that does not involve transport of patients to EDs.

5. Provide support for persons with congestive heart failure, diabetes, asthma, or multiple chronic conditions by making periodic checks and providing education about how to proactively manage the conditions when regular home health services are not available. A program in Ft. Worth, Texas, to address the needs of patients with congestive heart failure is described in Case Study 3 (page 15). See Figure 9 for the opportunities and challenges associated with this activity.

6. Partner with community health workers and primary care providers in underserved areas to provide preventive care such as flu vaccines, blood pressure monitoring, selected disease screening tests, and basic education about illness, injury prevention, and disease risk reduction. See Figure 10 (page 13) for the opportunities and challenges associated with this activity.

FIGURE 9. Community Paramedics Providing Care for Patients with Chronic Conditions

opportunities

ovErArChINg: potential to bridge gaps between primary care and emergency care, reduce volume of 911 calls, and reduce readmissions.

- Could be a new resource for people with serious chronic conditions who have limited access to primary care, and for patients newly diagnosed with a chronic condition who may need additional help with care management, and could serve as a bridge between emergency and follow-up care.
- CPs could evaluate patients with chronic conditions and review medications and care instructions to ensure that patients and, if applicable, their families, understand them. CPs could also consult with a patient's physician to address any needs identified during a visit (e.g., to adjust medication).
- Effective care management could reduce 911 calls, ambulance transport, ED visits, hospitalizations, and rapid ED returns/rehospitalizations. CPs could serve as provider extenders in underserved areas.
- Quality of care may be higher through enhanced one-on-one care, coordination of care, and communication about care with other health care providers. Care could be more timely if complications are detected early that require additional primary or emergency care.
- Cost-effective way to integrate EMS assets into the health care delivery system. Should be designed so that care provided by CPs is complementary to and does not supplant services provided by the broader medical community.
- In some jurisdictions, may increase operational efficiency of paramedics by providing a beneficial community service between calls and allowing paramedics to maintain and improve their skills.

Challenges

ovErArChINg: Need rules and guidelines for this type of care provided by cps. costs will need to be offset by savings in Ed and hospital readmissions.

- CPs will need additional training to learn about care for people with chronic conditions. Because this type of care is different from emergency care, it may require a different or additional type of medical supervision (i.e., by emergency physicians and primary care physicians or otherspecialists).
- Need rules and guidelines regarding the types of chronic care CPs provide.
- Need electronic systems to allow for exchange of records and other information between CPs and other primary care, specialty care, and emergency care providers.
- Patients may perceive there are tiers of care or lower levels of care being provided by the CP if the patient is accustomed to receiving care from doctors or nurses.
- May increase health care costs depending on the amount of time spent with patients, extra travel costs, etc.
- These services should be structured so as to not detract or interfere with rapid response to 911 calls.
- Need to change statute and regulations allowing community paramedics to provide services in additional situations, and change policies to allow payment for care that does not involve transport of patients to EDs.

FIGURE 10. Community Paramedics Providing Preventive Care for Patients

opportunities

ovErArChInG: uses skills paramedics already have and increases ability to reach communities that have little access to health care.

- Paramedics already provide services in a variety of home and community settings, including high-risk neighborhoods and medically challenged settings (e.g., streets and businesses).
- Paramedics currently give injections, check blood pressure, and assess home environments for safety, so very little additional training will be required for CPs to provide preventive services such as administering flu shots, screening for diseases, and educating patients about how to avoid asthma triggers or prevent falls.
- These types of services would be particularly beneficial to medically underserved communities that are not reached by standard health care resources.
- May be especially useful in rural areas and could be provided when doing follow-up care after patient is discharged from ED or hospital.

Challenges

ovErArChInG: Nontraditional role for paramedics. cps will need additional training to learn about preventive care and need to exchange information with other providers to ensure patients safety.

- Because this type of care is divergent from the primary mission of EMS, it may require a different or additional type of medical supervision (e.g., by primary care physicians, extended practice nurses).
- Preventive care services should be structured so as to not detract or interfere with rapid response to 911 calls.
- Systems to allow for exchange of records and other information between CPs and other primary care, specialty care, and emergency care providers will be needed.
- Need to address organizational issues of when and where these services would be provided (e.g., at doctor's request vs. regularly scheduled, at patient's home vs. at fire station).
- Costs will need to be offset by health care savings or assumed as part of basic primary care.
- Need to change statute and regulations allowing community paramedics to provide services in additional situations, and change policies to allow payment for care that does not involve transport of patients to EDs.

Case study 1

San Francisco Program to Address the Needs of Chronic Inebriates

San Francisco developed a program to appropriately address the needs of chronic inebriates — The San Francisco Fire Department (SFFD) Homeless Outreach & Medical Emergency (HOME) Team. The program was developed in response to a small number of individuals who were chronic inebriates that frequently called 911, had extensive ED use, and incurred high uncompensated health care costs.

The San Francisco HOME Team was designed to connect at-risk individuals with a system of care to better serve their needs and to stop the unproductive cycle of ambulance transports and hospital stays. Analysis by the HOME Team found that heavy EMS system users are typically 40- to 60-year-old homeless male chronic inebriates who have comorbid mental illness and medical conditions, and high mortality rates. Prior to this program, San Francisco General Hospital estimated a total of \$12.9 million in annual uncompensated charges associated with 225 frequent users.

The HOME Team program started in October 2004 under the SFFD EMS through a joint effort of SFFD, San Francisco Department of Public Health, and San Francisco Human Services Agency. The team was led by one paramedic captain and included intensive case managers or outreach workers as well as nurse practitioners. Typical response involved outreach to find all frequent users, connect them to community-based care (typically, substance abuse treatment and medical detoxification), and advocate for long term care when necessary. The program was able to develop a web of resources and partners including case workers, mental health professionals, primary care providers, housing resources, substance abuse treatment programs, and law enforcement. These partners came together to create and evaluate systems of care for the frequent users. This clinical planning brought forth new long term care placement options for dual-diagnosis patients with both mental health and substance abuse conditions, including locked programs and boarding programs with care management. Over an 18-month period, there were reductions in ambulance activity for high users and a decrease in ED diversion rates at local hospitals. The HOME Team was funded by the San Francisco Department of Public Health at approximately \$150,000 annually; however, funding was rescinded due to the department having other budget priorities, and the program has been on hiatus since June 2009.

Source: *The San Francisco Fire Department HOME Team: An Urban Community Paramedic Pilot Project*, presentation by Captain Niels Tangherlini, June 27, 2012.

Case study 2

San Diego Program Leveraging Technology to Better Serve Frequent 911 Callers

A program designed to address the needs of individuals who repeatedly call 911 in San Diego began in 2008 as a collaboration between the San Diego Fire-Rescue Department and Rural/Metro Ambulance. The San Diego Resource Access Program (RAP) is coordinated by a paramedic and integrates health information technology with real-time EMS and computer-aided device surveillance.

A unique element of San Diego's approach is its integration of technology into the RAP program. As part of the San Diego region's \$15-million Beacon Community grant for health information exchange (HIE) development from the Office of the National Coordinator, there is information exchange between EMS and hospitals. This exchange facilitates detection of abnormal patterns of activity, both by repeat users of 911 and by equally vulnerable but less noticeable individuals. Algorithms are used to identify frequent users of the EMS system and to engage them through a patient-centered case management system involving RAP and other social and judicial systems.

Essential for RAP's success are the partnerships with related stakeholders including law enforcement, the courts, homeless outreach teams, social workers, and housing providers.

An evaluation involving 51 individuals enrolled in RAP over a 31-month period from 2006 to 2009 found several positive outcomes, most notably in EMS and ED use:

- EMS encounters decreased by 38%, EMS charges by 32%, EMS task time by 40%, and EMS mileage by 48%.
- ED encounters at the participating hospital decreased by 28%, and ED charges decreased 12%.
- The number of inpatient admissions decreased by 9%, and inpatient charges decreased by 6%.
- Hospital length of stay decreased by 28%.
- Across all services, charges declined by over \$314,000.

One of RAP's goals is to create bidirectional data sharing with all stakeholders and to link to the HIE being developed as part of the Beacon grant. With such a system, RAP will be able to move beyond serving its most frequent users to help others in the community with disproportionate health burdens.

Sources: Jensen, AM, and Dunford, J, "Putting the 'RAP' in 'Rapport,'" *JEMS*, January 2013; and Tadros, AS, et al., "Effects of an Emergency Medical Services-Based Resource Access Program on Frequent Users of Health Services," *Prehospital Emergency Care*, October/December 2012, 16(4):541–7.

CASE STUDY 3

Medstar EMs Community health Program, Fort Worth, Texas

MedStar, a private EMS provider in Fort Worth, serves about 880,000 residents and has about 112,000 EMS responses annually. In 2009, MedStar began an EMS Community Health Program (CHP), with an initial focus on individuals who use EMS frequently and as a health care safety net. MedStar developed the program after an analysis showed that 21 patients had been transported to a local ED over 800 times in a 12-month period, generating almost \$1 million in ambulance charges and even larger ED expenses. The main goals of the CHP are to navigate patients toward more appropriate non-ED health care options, to reduce unnecessary 911 responses and EMS transports that strain an already-overloaded EMS system, and to reduce overall health care costs.

As the CHP evolved, MedStar began using advance practice paramedics who work with congestive heart failure (CHF) patients referred to the program by cardiac care case managers. CHP paramedics provide routine home visits to educate patients, conduct an overall assessment of the patient and their environment, provide a nonemergency access number for episodic care, and refer patients to their primary care physician as needed.

For 23 patients enrolled in a CHF program over a 12-month period, it was determined that 44 hospital admissions were prevented (a 47% decrease), and there was a substantial decrease in use of ambulance transports to the ED — a 44% decrease during the program and 56% after graduation from the program. MedStar estimated a savings of over \$16,000 per patient enrolled in the program. Using a new enrollment protocol beginning in June 2012, MedStar enrolled 10 patients at risk of CHF-related readmissions in a program; over an 8-month period, there were no 30-day readmissions and only one cardiac-related ED visit. Savings were estimated at almost \$39,000 per patient enrolled in this program.

All of MedStar's CHP activities focus on "patient navigation" (i.e., getting the patient connected with the right resource — a patient-centered medical home that can provide coordinated care) in an effort to meet the Triple Aim of better care, better patient experience, at reduced cost.

Sources: *Trained Paramedics Provide Ongoing Support to Frequent 911 Callers, Reducing Use of Ambulance and Emergency Department Services*, AHRQ Health Care Innovations Exchange Snapshot, 2012; *EMS Systems of the Future*, MedStar presentation in San Francisco, CA, December 2012; MedStar website, 2013.

Perspectives on Community Paramedicine: findings from Stakeholder Interviews

As part of this project, interviews were conducted with stakeholders from 37 organizations, including EMS associations (e.g., firefighters and paramedics), health care providers, health plans, and payers. Using a combination of predetermined and situation-specific questions, interviewees were asked about their knowledge of community paramedicine and their thoughts about its potential for use in the six specific health care situations described above. See Appendix C for a list of organizations represented in the interviews. Several themes emerged:

- **There is limited understanding of community paramedicine.** CP is a largely unknown model of care in California. There was a wide range of familiarity with the concept among interviewees, ranging from none at all to extensive. A few interviewees had substantial personal experience in implementing and evaluating CP programs. Several interviewees expressed uncertainty about what community paramedics might actually do, and some expressed concern about how community paramedics would interface or interact with the existing health care delivery system.
- **There is limited understanding of the EMS system.** Some interviewees noted that relatively few physicians and nurses (other than emergency physicians and nurses) have significant understanding of how the EMS system operates (and, in turn, what paramedics do and how they work) or how the EMS system interacts with the health care delivery system generally. Attitudes about how well the EMS system and paramedics function appear to be substantially influenced by the extent and quality of an individual practitioner's experience with EMS providers.
- **EMS is essential to the health care system but is not well integrated.** While the EMS system is generally perceived to be an important part of the health care delivery system, it is not perceived to be an integrated part of the system, since EMTs and paramedics currently work closely with only a small subset of health care providers and in a small subset of environments. EMS has been on the periphery of the health care reform conversation, and some interviewees expressed the belief, or assumption, that EMS would just keep doing what it

has always done despite the myriad changes in the health care system at large.

- **There is support for specific CP activities.** When asked about specific services that community paramedics could potentially provide, interviewees said the need for additional training, protocols to guide decision-making, increased availability of physicians or nurses to consult with paramedics in the field, and increased electronic information exchange were essential. With these elements in place, many interviewees expressed enthusiasm for specific CP activities, to be delivered in accordance with the needs of individual communities.
- **Additional payment is needed for CP services.** Commonly voiced was the sentiment that there will need to be additional payment for any additional services provided by CPs. While it is unclear who will pay, there seemed to be a shared belief that payment should be apportioned among all the entities that may benefit from the provision of these services.
- **It is essential to measure CP program outcomes and to ensure that high-quality care is delivered.** Most interviewees opined that if CP programs were to be implemented, it would be important to measure quality and cost outcomes. This would influence future investment in such programs. It was noted that there is much variation in quality assurance (QA) and relatively few quality improvement (QI) activities within EMS today; it will be important to incorporate enhanced QA and QI activities for community paramedics to ensure that they are providing high-quality care.
- **There may be different needs and solutions for urban versus rural areas.** Concern was expressed about the different roles and capacities of paramedics in rural versus urban areas and the different logistics that might be involved in developing and implementing CP programs in these settings. It was noted that there are relatively fewer paramedics practicing in rural California.
- **There is a need for better and ideally electronic exchange of information.** Some concern was expressed that paramedics would need to be more involved in patient information exchange with other health care providers in order to provide more services than

paramedics currently do. Several interviewees indicated that electronic systems would best support timely and complete exchange of data.

- **There are concerns about paramedic skills and training.** Several interviewees expressed uncertainty and concern about paramedics having the skills to provide nonemergency services, despite being told that paramedics would have additional training before practicing as community paramedics.
- **There are concerns about paramedic capacity.** Some concern was expressed about the capacity of EMS providers to do more than what they already do. Some interviewees felt that paramedics are already working at or near maximum capacity, particularly in urban areas, and that they probably could not do any more. A number of stakeholders expressed that they would not want any new roles to distract paramedics from performing their basic first responder and other lifesaving functions.²⁴
- **There are alternatives to supporting development of CP.** A few stakeholders who did not offer much support for the proposed CP services cited concerns over quality of care, decision-making authority of community paramedics, fragmentation of care, and the potential additional liability for those providing medical control, and opined that it may be better to put more resources into the existing non-EMS delivery system.
- **Vigilance must be maintained for possible unintended consequences, especially for safety-net providers.** Some interviewees expressed that, to minimize unintended consequences, care should be taken to anticipate what effects any changes to the EMS system would have on both emergency services and other components of the health care system. It was noted that the EMS system is part of the health care safety net, and the safety net must be preserved. Some interviewees emphasized that all patients should be treated equally by the EMS system, regardless of their ability to pay, and this principle should apply to any new activities that fall under the CP umbrella.

EMS Regulations, Statutes, and Other Barriers to CP Program Implementation

Three aspects of California's current EMS statutes and regulations preclude the development and implementation of CP programs:

1. The requirement that callers to 911 must be taken to an acute care hospital having a basic or comprehensive ED (Health & Safety Code Division 2.5, section 1797.52).
2. The locations where paramedics can practice — i.e., at the scene of a medical emergency, during transport to an acute care hospital with a basic or comprehensive emergency department, during interfacility transfer, while in the ED of an acute care hospital until responsibility is assumed by hospital staff, or while working in a small and rural hospital pursuant to sections 1797.52, 1797.195, and 1797.218 (California Code of Regulations [CCR], title 22, section 100145, and Health & Safety Code 2.5, section 1797).
3. The specification of the paramedic scope of practice. Specific procedures and medications approved for use are contained in regulation (CCR, title 22, section 100145 and Health & Safety Code 2.5, section 1797).

“Significant portions of 911 calls — 30% to 40% — are nonemergency calls. In rural communities, people call an ambulance for only serious things, but in urban areas, people will call for anything.”

—EMS Provider

It is important to note that the paramedic scope of practice in California is explicitly defined in both statute and regulation as referring to a set of authorized skills and activities that emergency medical personnel may perform *and* the places in which those skills and activities may be performed.²⁵ This is unusual in that most scope of practice definitions specify skills and activities but not location. California's dual definition means that any of the potential CP scenarios described in this report would require a statutory change to one or more aspects of the paramedic scope of practice. This is further discussed below.

Prehospital Services

- **Transport to alternate destinations.** Regulations and statutes would need to be changed to allow community paramedics to: 1) transport patients to a destination other than a general acute care hospital with a basic or comprehensive ED, and 2) practice in locations other than those currently specified (assuming community paramedics would continue to care for patients at an alternate destination prior to responsibility being assumed by staff at the alternate destination). Medical specialists other than emergency physicians would likely need to become involved in medical control.
- **Assess, treat as needed, and refer or release.** Additional training and protocols would need to be developed. Medical control would always be required. A change in regulations and statutes would be required to allow community paramedics to refer or release patients instead of transporting them to an ED.
- **Addressing the needs of frequent 911 callers.** Since community paramedics may transport these patients to non-ED destinations, may coordinate their care with other social service providers, or may not transport the patients, regulatory and statutory changes would be needed. Additional medical specialists other than those in emergency medicine would likely become involved in medical control and care coordination.

Post-Hospital or Community Health Services

Because paramedics are currently authorized to function only in prehospital emergency and other specified settings, post-hospital services such as chronic care management, provision of preventive services, and conducting home visits

post-hospitalization are prohibited, so regulatory and statutory changes would be needed. Also, changes in scope of practice regarding specific skills and activities may be necessary for new diagnostic or therapeutic interventions. Increased or additional types of medical control also may be necessary.

Payment for Emergency Medical services

Another potential barrier to the implementation of CP programs in California relates to the current EMS payment structure, which revolves around patient transport. EMS providers receive payment for advanced life support or basic life support transport to a hospital ED. This payment structure reimburses paramedics for responding to 911 calls and transporting the patient to an ED, and it encourages return to service as quickly as possible. A payment model for CP programs would likely need to separate payments for components such as assessment, treatment, and transport. Payment models such as those used by accountable care organizations (ACOs) that put a premium on efficient use of health care resources merit exploration as a source of revenue for CP programs.

Conclusion and Policy options

Community paramedicine offers a potentially promising solution for addressing some types of health care gaps in California, and based on comments voiced at a February 2013 stakeholder meeting and a subsequent survey of local EMS agencies, there appears to be substantial support for exploring this new model of community-based care.²⁶ However, CP involves a number of complicated issues and is currently precluded by statute.

Widespread development of community paramedicine in California will require more clarity about a number of issues, including CP program purpose and the associated need for education, training, scope of practice, and medical supervision. CP programs developed in other states and countries have had varied purposes, typically being developed to address specific local needs and unique collaborations, partnerships, and other circumstances. As there is heterogeneity in the design and purpose of these other CP programs, California will need to specify a standardized CP training curriculum, scope of practice, and prescription for appropriate medical supervision.

While at their core these programs all leverage the training and experience that paramedics already possess, they vary in how

they do so. This is in contrast to current EMS systems, for which there is a more singular goal (i.e., to bring potentially lifesaving care to an ill or injured person in the prehospital setting and to transport the person to a hospital ED) and a more defined portfolio of needed skills and commensurate training for EMS personnel. Some of the potential CP program scenarios would require little additional training and a change in scope of practice only with regard to where the patient might be transported (e.g., to allow transport of certain types of patients to destinations other than an ED), while other scenarios might require substantially more education and training for enhanced decisionmaking and more significant changes in scope of practice (e.g., for primary care outreach activities). Some of the potential CP scenarios also raise a question about the utility of developing an EMT- or paramedic-like primary care technician as a new type of health care worker that would function within a formally designed primary care system much the way that paramedics function in an EMS system. However, this possibility is not the subject of this report and was not examined in detail.

For the above reasons, we recommend that further development of community paramedicine in California be done through pilot or demonstration projects so that issues related to education and training, medical supervision, scope of practice, and impact on local EMS systems, among others, can be further evaluated. To this end, two alternative pathways are available. Pilot projects could be undertaken consequent to new legislation authorizing a CP demonstration program, or pilot projects could be undertaken pursuant to the Office of Statewide Health Planning and Development's (OSHPD's) Health Workforce Pilot Projects Program (HWPP).^{27,28} The latter would be the most expedient.

We do not recommend changing California's EMS-related statutes and regulations to broadly authorize CP programs at this time. While we believe that CP has considerable promise, we also believe that more information is needed to determine the appropriate role of these programs in California and how best to operationalize them.

If CP pilot projects were to be undertaken, we believe that as many as 10 to 12 would be needed to provide sufficient diversity of program focus, geography, demography, and community partnerships to answer the many outstanding questions about these programs. If pilots were implemented, we further

recommend that EMSA and an advisory board composed of experts in emergency medicine, primary care, public health, behavioral health, and nursing, among other areas of expertise, be involved in the review, approval, monitoring, and evaluation of the projects.

Pilot projects would need to address a number of issues in the project proposal, including:

- A description of the specific need that the pilot project would address, how this need was selected, and exactly how the project would address the identified need
- A detailed explanation about how the community paramedics would be trained and would maintain their skills
- A description of how appropriate medical supervision would be assured
- A description of how data to evaluate quality assurance and quality improvement activities would be obtained and monitored
- An evaluation plan for assessing the impacts on quality and cost of care, and how the local EMS agency will ensure that all patients are treated equally regardless of insurance status and health condition, among other factors
- A plan for integrating the CP program with other community-based health care and social service programs and for analyzing the potential impacts of the CP program on these providers, including safety-net providers
- Funding sources and financial sustainability
- The role of health information exchange (HIE), telehealth, and possibly mobile-health technologies
- How to leverage the potential of electronic health records (EHRs) and HIE to facilitate communication between community paramedics and other health care providers

“Emergency medical services (EMS) of the future will be community-based health management that is fully integrated with the overall health care system. It will... provide acute illness and injury care and follow-up, and contribute to treatment of chronic conditions and community health monitoring.... It will improve community health and result in more appropriate use of acute health care resources. EMS will remain the public’s emergency medical safety net.”

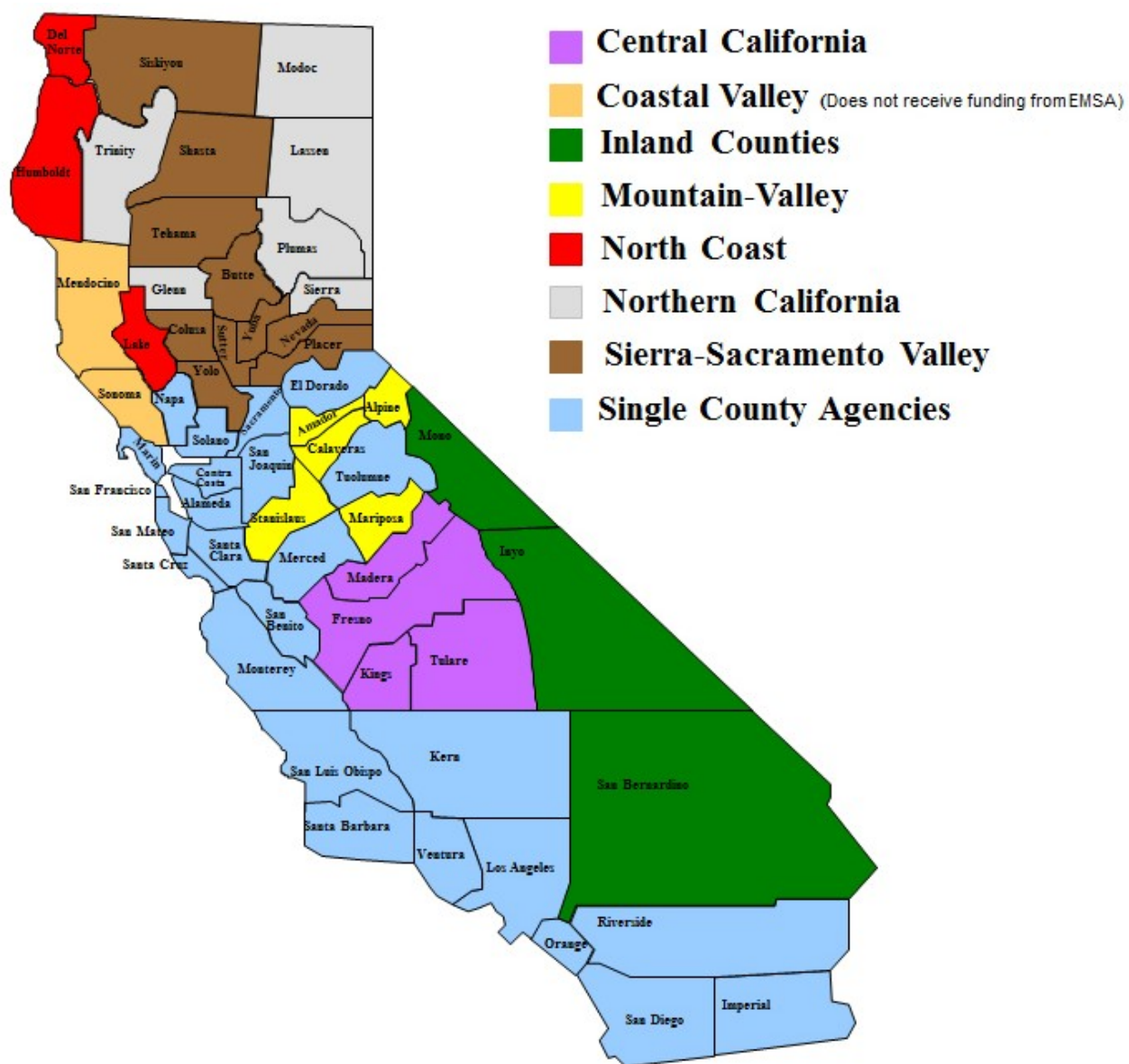
— EMS Agency for the Future, NHTSA, 1996

ENDNotEs

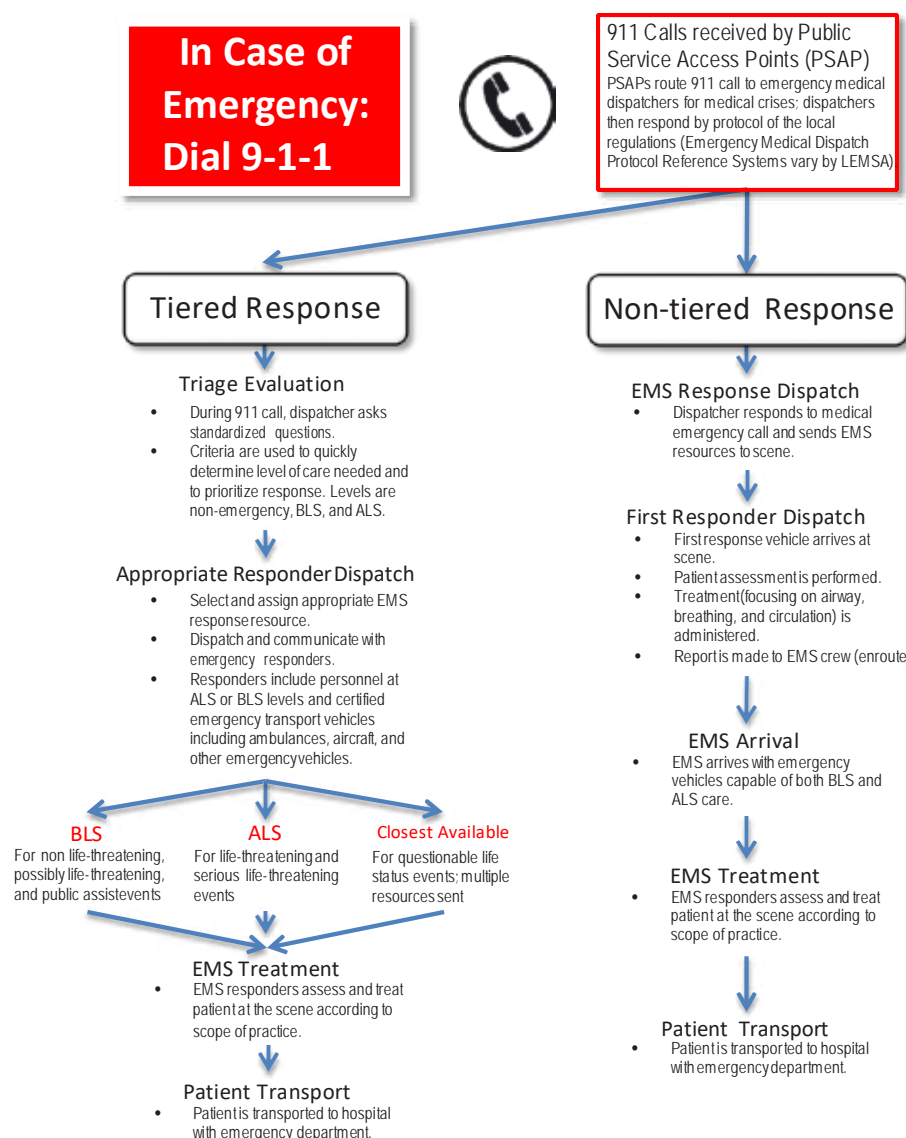
1. The commonly used term “paramedic” technically refers to an emergency medical technician-paramedic (EMT-P), the most highly trained category of emergency medical technician (EMT). The three levels of EMTs in California are described on page 4, and their training and scopes of practice are shown in Figures 2 and 3.
2. Green LV, Savin S, Lu Y. “Primary Care Physician Shortages Could Be Eliminated through Use of Teams, Nonphysicians, and Electronic Communication.” *Health Affairs* 2013(32):11–19.
3. Committee on Trauma and Committee on Shock. *Accidental Death and Disability: The Neglected Disease of Modern Society*. Washington, DC. National Academy of Sciences-National Research Council. 1966.
4. California Health & Safety Code, Article 3, Sections 1480–85. Wedworth-Townsend Paramedic Act of 1970.
5. California Health & Safety Code, Chapter 2.5, Sections 1797 et seq. Garamendi-Torres EMSSystem Act of 1980.
6. Kizer KW, Moorhead GV, McNeil M. *Emergency Medical Services Systems Standards and Guidelines*. Sacramento, CA. Emergency Medical Services Authority, State of California. 1984.
7. All ambulance attendants are required by California law to be trained and certified to the EMT level (basic life support, or BLS), and many fire agencies require firefighters to be EMT certified.
8. EMSA. 2013.
9. EMSA. 2013.
10. Federal Interagency Committee on Emergency Medical Services. *2011 National EMS Assessment*. Washington, DC. US Department of Transportation, National Highway Traffic Safety Administration. 2012.
11. Institute of Medicine. *Emergency Medical Services at the Crossroads*. Washington, DC. National Academies Press. 2006.
12. California Health & Safety Code, Chapter 2.5, Sections 1797.98a–g. The Maddy Emergency Medical Services Fund.
13. Munjal K and Carr B. “Realigning Reimbursement Policy and Financial Incentives to Support Patient-Centered Out-of-Hospital Care.” *JAMA* 2013, 309(7): 667–8.
14. Institute of Medicine. *Emergency Medical Services at the Crossroads*. Washington, DC. National Academies Press. 2006.
15. Hobbs, Ong, and Associates, and Applied Analysis. *Industry Performance Survey*, California Ambulance Association. 2006.
16. *Fewer and More Specialized: A New Assessment of Physician Supply in California*, California HealthCare Foundation. 2009.
17. Long P, Gruber J. “Projecting the Impact of the Affordable Care Act on California.” *Health Affairs* 2011(30):63–70.
18. California HealthCare Foundation Center for Health Reporting. Los Angeles. USC Annenberg School for Communication & Journalism. 2011.
19. The shortage of primary care physicians contrasts with an oversupply of specialists in California, particularly in urban areas, although there are distribution issues with both primary care physicians and specialists.
20. Ross DW, Schullek JR, Homan MB. “EMSTriage and Transport of Intoxicated Individuals to a Detoxification Facility Instead of an Emergency Department.” *Ann Emerg Med* 2013; 61(2):175–184. Tadros AS, Castillo EM, Chan TC, et al. “Effects of an Emergency Medical Services–Based Resource Access Program on Frequent Users of Health Services.” *Prehospital Emergency Care*, October/December 2012; 16(4):541–7.
21. *Western Eagle County Ambulance District: Evaluation of the Community Paramedic Program, September 2010–June 2012*. Western Eagle County Health Services District. September 2012. Crawford CZ. *The Feasibility and Role of Community Paramedicine in Nebraska*. Nebraska EMS/Trauma Program. May 2011.
22. From, for example, the DHHS Human Resources and Services Administration (HRSA), Rural and Frontier EMS Agenda for the Future, International Roundtable of Community Paramedicine, and Minnesota Community Healthcare and Emergency Cooperative.
23. The Community Healthcare and Emergency Cooperative developed a standardized curriculum that colleges in any state, province, or nation can customize for their own certification programs. The curriculum has two phases: Phase 1 — Foundational Skills (approximately 100 hours based on prior experience), comprehensive didactic instruction in advocacy, outreach and public health, performing community assessments, and developing strategies for care and prevention; and Phase 2 — Clinical Skills (15 to 146 hours based on prior experience), supervised training by medical director, nurse practitioner, physician assistant, and/or public health provider.

24. Most 911 contracts have clauses requiring certain staffing and response times. If unmet, the provider agency can be fined.
25. California Health & Safety Code, Chapter 2, Sections 1797.52, 1797.84, and 1797.194e, and California Code of Regulations, Title 22, Division 9, Chapter 4, Sections 100139 and 100145.
26. Eleven of 15 respondents to this EMSA-conducted survey expressed interest in participating in a CP pilot or demonstration project.
27. Maine has adopted this approach, allowing for up to 12 pilot projects that develop and evaluate a community paramedicine program.
28. OSHPD's HWPP program allows organizations to test, demonstrate, and evaluate new or expanded roles for health care professionals or new health care delivery alternatives before changes in licensing laws are made by the Legislature. Various organizations use HWPP to study the potential expansion of a profession's scope of practice to facilitate better access to health care; to expand and encourage workforce development; to demonstrate, test, and evaluate new or expanded roles for health care professionals or new health care delivery alternatives; and to help inform the Legislature when considering changes to existing legislation in the Business and Professions code.

APPENDIX A. California Local Emergency Medical services Agencies




Source: EMSA, 2013.




Emergency Medical Dispatchers

Trained dispatcher who processes emergency medical 911 calls, determines severity and prioritizes response, and coordinates sending appropriate emergency responders to the scene.




First Responders

Dispatched to scene first, by closest/most available; member of local certified first-response agency (fire department, police, private ambulance, EMS, industrial emergency team, etc.) able to provide BLS and sometimes ALS.



EMS Responders/Transport

Emergency and non-emergency vehicles, must have BLS or ALS capabilities when appropriate; certified EMT, A-EMT, or licensed paramedic responder (LEMSA approved private or county ambulance or emergency transport vehicle)



Appendix C. Organizations with Representatives participating in Stakeholder interviews

1. Alameda County EMS Agency
2. Alameda County Health Care Services Agency
3. AMR
4. Association of State and Territorial Health Officials
5. California Ambulance Association
6. California Association for Health Services at Home
7. California Chapter of ACEP (Cal/ACEP)
8. California Conference of Local Health Officers (CCLHO)
9. California Department of Health Care Services
10. California Department of Public Health
11. California Fire Chiefs Association, EMS Section
12. California Hospital Association
13. California Medical Association
14. California Nurses Association
15. California Professional Firefighters
16. California Rescue and Paramedic Association
17. Centers for Medicare & Medicaid Services, Region 9,
Department of Health and Human Services
18. El Dorado EMS Agency
19. Emergency Nurses Association
20. Kaiser Permanente
21. Los Angeles County Department of Health Services
22. Los Angeles County EMS Agency
23. Mayo Clinic Medical Transport
24. MedStar
25. National Association of State EMS Officials
26. NorCal EMS Agency
27. North Coast EMS Agency
28. Orange County EMS Agency
29. Regional Emergency Medical Services Authority, Reno
30. Santa Clara EMS Agency
31. San Diego City EMS Agency
32. San Diego County EMS Agency
33. San Francisco EMS Agency
34. San Francisco Fire Department
35. Sierra/Sacramento Valley EMS Agency
36. WellPoint
37. Western Eagle County Ambulance District



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Caring for High-Need, High-Cost Patients: What Makes A Successful Care Management Program



Caring for High-Need, High-Cost Patients: What Makes for a Successful Care Management Program?

Clemens S. Hong, Allison L. Siegel, and Timothy G. Ferris

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Abstract Provider groups taking on risk for the overall costs of care in accountable care organizations are developing care management programs to improve care and thereby control costs. Many such programs target “high-need, high-cost” patients: those with multiple or complex conditions, often combined with behavioral health problems or socioeconomic challenges. In this study we compared the operational approaches of 18 successful complex care management programs in order to offer guidance to providers, payers, and policymakers on best practices for complex care management. We found that effective programs customize their approach to their local contexts and caseloads; use a combination of qualitative and quantitative methods to identify patients; consider care coordination one of their key roles; focus on building trusting relationships with patients as well as their primary care providers; match team composition and interventions to patient needs; offer specialized training for team members; and use technology to bolster their efforts.

OVERVIEW

As the United States grapples with steeply rising health care costs, payers, providers, and policymakers are seeking ways to improve the efficiency of health care delivery. One strategy pursued by nearly all provider groups participating in accountable care organizations that assume financial risk is to manage the care they provide to “high-need, high-cost” patients — those requiring complex, multifaceted care.¹ While there is growing consensus on the importance of this approach to controlling costs, there is little to guide stakeholders as to the best practices for deploying care management programs.

What Is Complex Care Management?

While there are several types of care management interventions, we focus here on programs in which specially trained, multidisciplinary teams coordinate closely with primary care teams to meet the needs of patients with multiple chronic conditions or advanced illness, many of whom face social or economic barriers in accessing services.²

Primary care–integrated complex care management (CCM) programs perform four essential activities³:

- 1 Identifying and engaging patients who are at high risk for poor outcomes and unnecessary utilization.
- 2 Performing comprehensive health assessments to identify problems that, if addressed through effective interventions, will improve care and reduce the need for expensive services.
- 3 Working closely with patients and their caregivers as well primary care, specialty, behavioral health, and social service providers.
- 4 Rapidly and effectively responding to changes in patients' conditions to avoid use of unnecessary services, particularly emergency department visits or hospitalizations.

CCM extends beyond medical issues to address, to the extent possible, how patients' psychosocial circumstances affect their ability to follow treatment recommendations and achieve a healthy lifestyle. The goals are to maintain or improve patients' functional status, increase their capacity to self-manage their condition, eliminate unnecessary clinical testing, and reduce the need for acute care services.

To date, there is scant evidence of the effectiveness of primary care–integrated CCM in reducing overall health care costs. Many programs demonstrate improved quality or reduced acute care utilization, but their effects on net costs have been inconsistent across programs.⁴ Poor implementation at any point along this pathway reduces effectiveness and may explain the failure to demonstrate cost savings.

To help guide health care providers, administrators, health system leaders, and payers that are investing in and implementing interventions for complex, high-cost patients, in this brief we describe the models and best practices of 18 successful CCM programs. We identified programs through literature review, recommendations of an expert steering committee, and snowball sampling.⁵ [Appendix Table 1](#) provides an overview of each of the 18 programs, which are located in rural and urban areas in 14 states and focus on high-risk populations across payer types. [Appendix Table 2](#) summarizes the care utilization, cost, and quality outcomes data for each program. Finally, for our inclusion criteria and data collection approach, see the [About This Study](#) box.

WHAT MAKES FOR AN EFFECTIVE CCM PROGRAM?

Following is a summary of key findings based on our investigation of effective CCM programs.

CCM programs must be tailored to their particular context. Contextual factors include practice size, location in an urban or rural area, and program sponsorship and governance.

- Small, independent practices, which are less likely to have a sufficient number of complex patients to justify investment in a CCM team, need to share CCM resources with each other. Regional care management entities that serve multiple practices are particularly well suited for areas where smaller practices predominate—for example, in rural locales.
- CCM programs in rural settings require greater team resources or smaller caseloads to offset the increased travel time and relative scarcity of community resources.
- Larger practices with sufficient numbers of complex patients should have embedded care managers at primary care practices and other key sites. Some CCM team members can be shared across practices.
- Primary care teams familiar with the principles of team-based care and quality improvement processes are likely to be supportive of CCM programs. Conversely, CCM team members may facilitate practice change at primary care sites.

Exhibit 1. Operational Control in CCM Programs: Advantages/Disadvantages of Different Approaches

Operational Control Type	Advantages	Disadvantages
Payer-operated	<ul style="list-style-type: none"> • Greater flexibility • Access to financial resources 	<ul style="list-style-type: none"> • Greater challenges engaging patients and providers • Limit use of CCM resources to their members
Practice-operated	<ul style="list-style-type: none"> • Greater opportunity for primary care integration 	<ul style="list-style-type: none"> • Care managers pulled from care management tasks to cover day-to-day clinic duties
Delivery system—operated	<ul style="list-style-type: none"> • Central oversight of care management activities • Economies of scale—formal training opportunities, peer-learning, improved data integration, and greater connectivity with providers/care managers across the delivery system 	<ul style="list-style-type: none"> • May limit use of CCM resources to specific members for which the delivery system is at risk
Independent Regional Care Management Organization	<ul style="list-style-type: none"> • Allow implementation in places where a small number of complex patients make it difficult to embed CCM teams into practices • Economies of scale—formal training opportunities, peer-learning, improved data integration, and quality improvement capacity 	<ul style="list-style-type: none"> • Greater challenges engaging patients and providers • Limit use of CCM resources to their members

In selecting patients, CCM programs aim to identify individuals who are at the highest risk for poor outcomes and who would benefit from the planned care management interventions. This requires alignment between selected populations, interventions, and desired outcomes, and a combined quantitative and qualitative approach appears to work best.

- The most reliable approach combines use of risk prediction software, chronic disease criteria, or utilization thresholds with patient/provider referrals or assessments. In this hybrid approach, providers must clearly understand the program goals and available care management interventions to select the right patients.
- Focusing enrollment around acute care events, such as emergency department (ED) visits and hospitalizations, helps target opportunities to reduce costs and facilitate patient engagement.

Exhibit 2. Patient Selection in CCM Programs: Advantages/Disadvantages of Different Approaches

Patient Selection Approach	Advantage	Disadvantage
Quantitative risk-prediction tools	<ul style="list-style-type: none"> • Well-validated for identifying a subset of high-risk patients • Provides the most complete picture of expenditures 	<ul style="list-style-type: none"> • May not adequately identify psychosocially complex patients, for example, in Medicaid populations) • Depends on completeness of claims data; lack of continuous claims data in Medicaid because of frequent disenrollment may reduce precision of predictive modeling
Acute-care-utilization focused	<ul style="list-style-type: none"> • Identifies a high-risk population at a time of significant need and opportunity for impact 	<ul style="list-style-type: none"> • Misses high-risk patients who do not use acute care services • Does not identify factors that drive admissions to guide intervention
High-risk-condition- or medication-focused	<ul style="list-style-type: none"> • Widely available and easy to implement • More straightforward for providers to address 	<ul style="list-style-type: none"> • May not adequately identify patients at high risk for utilization/costs
Health risk assessment	<ul style="list-style-type: none"> • Combines the strengths of all the quantitative approaches and brings data together from multiple sources (including qualitative assessments) 	<ul style="list-style-type: none"> • Implementation is resource-intensive
Referral by physician or staff, or patient self-referral	<ul style="list-style-type: none"> • Providers prefer to have the ability to refer their patients to CCM programs 	<ul style="list-style-type: none"> • Provider referral identifies patients that are challenging to manage, but not necessarily those at high risk for future utilization/costs • Patient self-referral may identify motivated patients, who afford a greater opportunity for impact, but often have higher self-efficacy and more vulnerable patients are excluded
Hybrid—quantitative and qualitative	<ul style="list-style-type: none"> • May be most reliable approach to selecting high-risk patients that are most likely to respond to CCM • Takes advantage of the strengths of different approaches 	<ul style="list-style-type: none"> • More complex to implement

The composition of the CCM team must be tailored to the target population and constructed to effectively deliver the desired outcomes.

- Programs frequently configure multidisciplinary CCM teams around one or more primary care manager(s). This was typically a nurse, although social workers and community health workers may be a better fit for hard-to-engage patients with major psychosocial barriers to care.
- Other key team roles include: care manager, community resource specialist, behavioral health provider, pharmacist, and health coach/community health worker, other clinician specialists (e.g., geriatrician/psychiatrist), and administrative and analytic support staff.
- Sharing some CCM team members (e.g., behavioral health providers and pharmacists) across multiple CCM teams was an effective strategy to improve efficiency.
- Teamwork is facilitated through face-to-face meetings and use of a shared information technology platform for secure communication.

PATIENT ENGAGEMENT AT CAMDEN COALITION: MAKING THE RIGHT PITCH

The first approach to a patient is important. Camden Coalition, based in Camden, New Jersey, uses a tailored approach to introduce its program to prospective patients. First, a team member tries to approach prospective patients during a hospitalization or emergency department visit—when they are likely to have a number of acute needs and thus be receptive to offers of help. Then, instead of generically presenting Camden Coalition’s services, a team member asks open-ended questions. Armed with an understanding of a patient’s priorities and needs, the team member can then tailor the presentation of Camden’s services to those needs. The coalition reports that few patients decline services when approached in this way.

The needs of the patients being served and the CCM team composition determine the appropriate caseload as well as the frequency and location of interactions.

- Caseloads for the primary care manager or CCM team unit ranged from 25 to 500 patients, although not all patients were active at any given time. Care managers typically interact with their patients weekly to monthly, although crisis can drive daily interactions. Program protocols and the care manager’s clinical judgment dictate frequency of scheduled interactions.
- Most interactions took place by telephone. In-person visits typically occurred at primary care practices, but also occurred in hospitals, emergency departments, and patients’ homes.
- Adding additional team members, optimizing team function, effectively prioritizing patients by levels of risk, and selective use of remote monitoring make CCM teams more efficient and able to carry larger caseloads or have more time for face-to-face interactions.

The key task for the CCM team is to build trusting relationships with patients/families as well as with primary care providers and their staff.

- Upon meeting patients, care managers find it effective to have direct recommendations or “warm handoffs” from their primary care physicians. Some care managers accompany patients to their primary care visits.
- Approaching patients during times of high need (e.g., during hospitalization) and addressing language and cultural barriers with concordant and approachable staff are also important.

- Patient assessments should take into account gaps in care as well as functional status, patient activation, behavioral health and social service needs, and barriers to care. It is then important to negotiate a care plan that reflects the priorities and preferences of patients and their families.
- Use of motivational interviewing is an important way to encourage patient activation and self-management.
- Educating providers about the roles and responsibilities of care managers and providing complementary services that fill patient care gaps help generate trust and support.
- Frequent interactions between the CCM and primary care teams improve communication and build trust.

To perform their key role of coordinating patients' care, CCM teams must ensure all providers share information, secure smooth referrals, and help patients find needed resources in health systems and in communities.

- Programs focus on ensuring safe care transitions through tools such as medication reconciliation and by developing action plans when certain trigger events occur.
- CCM teams that receive timely notifications of their patients' emergency department visits may be able to intervene to avoid hospitalization.
- CCM teams need to develop protocols for end-of-life services, such as completion of advanced directives. A few programs expanded access to palliative care for patients expected to live longer than six months.
- Care coordination requires CCM teams to assess existing services and develop strategies to fill any gaps. They also must develop effective working relationships with hospitals, skilled nursing facilities, and other clinical providers, as well as with community service providers.

Care coordination is a specialized field like any other: team members require customized training, including both didactic experiences and mentoring/shadowing.

- It is important to seek out care managers and other members of the team who are able to build trust with patients and primary care team members.

Health information technology can be a powerful enabler of effective care management, though there are significant gaps in functionality among existing tools.

- Priorities for use of health information technology include: accessing real-time data (e.g., on hospital discharges); facilitating documentation, communication, decision support, and automated reminders; and remote patient monitoring and engagement. Remote monitoring allows the CCM team to track stable patients and alerts the CCM team to declines in patient health. To address communication barriers in high-risk patients, one CCM program even provides free mobile phone services.

GRACE CARE PLANNING PROCESS

The Geriatric Resources for Assessment and Care of Elders (GRACE) program, developed at the Indianapolis-based Wishard Health Services, was created to manage the care of vulnerable elderly patients by an interdisciplinary geriatrics team. To develop care plans, team members consider: dementia, depression, ambulation, urinary continence, nutrition, pain, vision, hearing, medications, health maintenance, advance care planning, and caregiver burden.

A nurse practitioner and social worker assess patients in their homes and then follow standard protocols to develop plans based on their findings. Plans are then presented to the full care management team, whose members prioritize interventions and generate reports for patients' primary care physicians, who review them and provide feedback. The nurse practitioner and social worker then review each plan with patients to ensure they are consistent with their preferences before implementing them. The assessment and care plan are maintained in a central information technology system, enabling the care manager to update and review it as needed.

CONCLUSION

The science of complex care management is still in its infancy. Nonetheless, we encountered many similarities in the design and operations of a diverse group of successful programs. While the evolving nature of CCM made identifying best practices difficult, program leaders and team members endorsed several operational approaches. Perhaps most important, they thought that they had not exhausted the opportunities to improve care and reduce cost for these complex patients. Both the emergence of key operational characteristics of successful programs and the apparent opportunity for continued improvement of these programs should spur policymakers to reduce barriers to more widespread adoption of primary care-integrated, complex care management programs.

AVERTING UNNECESSARY UTILIZATION: CAREOREGON

CareOregon care managers engage patients in the emergency department (ED) with the goal of connecting high utilizers with patient-centered medical homes. Previously developed ED treatment plans are faxed to the ED at the time of the patient visit. The treatment plan includes reminders to call the CCM program outreach workers and direct the patient back to the primary care practice.

A plan might include language such as, *“Working on pain management plan, please do not give the patient opiate,”* or *“Patient has a history of coronary artery disease, but repeated negative work ups for recurrent chest pain suggest chest pain is related to anxiety.”*

Appendix Table 1. Summary of Primary Care–Integrated, Complex Care Management Programs

Program	Rural/ Urban	State/ National	Predominant Payer Type(s)	Definition of Complex Patient	Operational Control	Part of Primary Care Enhancement (PCMH) or High-Risk Strategy?	Level of Primary Care Integration	Funding
Aetna's Medicare Advantage Provider Collaboration Program	Both	National	Medicare	<ul style="list-style-type: none"> • Risk score* • Frequent admission/ED visits • Predictive algorithm for readmission • High-risk diagnoses • Advanced illness predictive algorithm (risk of death in 12 months) 	Payer	High risk	Off-site with frequent interaction; embedded (when >1,000 Aetna patients)	Payer
AtlantiCare Special Care Center	Urban	New Jersey	Commercial	Health risk assessment based on diagnoses, medication counts, acute care utilization, psychosocial issues	Delivery system	High risk	Integrated part of primary care team	Payer/employer
Camden Coalition	Urban	New Jersey	Medicaid	Two or more chronic disease–related admissions in six months	Regional CM organization	High risk	Off-site with frequent interaction	Grant
Care Management Plus	Urban	Oregon/National	Medicare	<ul style="list-style-type: none"> • Risk score* • Frequent admissions • Specific high risk medication changes • Confirmation by primary care team review 	Delivery system	High risk	Embedded but not fully integrated	Grant/health system
CareOregon Health Resilience Program (working on behalf of Health Share of Oregon)	Urban	Oregon	Medicaid	<ul style="list-style-type: none"> • Referral • Utilization threshold – >1 non-obstetrics admission or 6+ ED visits in 12 months 	Payer and coordinated care organization	PCMH	Embedded, but not fully integrated	Payer
Community Care of North Carolina (Community Care of the Sandhills)	Rural	North Carolina	Medicaid	<ul style="list-style-type: none"> • Frequent admissions—greater than anticipated for disease “burden” • Multiple chronic conditions (3M Clinical Risk Groups) • Referral from primary care 	Regional CM organization	PCMH	Off-site with frequent interaction	Payer
The Everett Clinic	Urban	Washington	Commercial/Medicare	<ul style="list-style-type: none"> • High cost • High utilizers 	Delivery system	High risk	Embedded	Payer/employer/health system
Fletcher Allen Health Care—Vermont Blueprint Community Health Team (CHT)—Burlington	Both	Vermont	All Payer	<ul style="list-style-type: none"> • Frequent inappropriate utilization • Poorly controlled chronic conditions • Referral 	Delivery system	PCMH	Off-site with frequent interaction	Payer/health system
Geisinger ProvenHealth Navigator	Rural	Pennsylvania	All Payer	<ul style="list-style-type: none"> • Risk score* • Referral 	Payer/delivery system	PCMH	Integrated part of primary care team/off-site with frequent interaction	Payer/health system
Genesys HealthWorks Health Navigator	Urban	Michigan	County Health Plan/Uninsured	<ul style="list-style-type: none"> • Poorly control chronic conditions • Acute medical or social care need • Intermediate (not the highest) cost 	Payer/delivery system	PCMH	Off-site with frequent interaction/integrated part of primary care team (1 practice)	Payer/health system

Program	Rural/ Urban	State/ National	Predominant Payer Type(s)	Definition of Complex Patient	Operational Control	Part of Primary Care Enhancement (PCMH) or High-Risk Strategy?	Level of Primary Care Integration	Funding
Geriatric Resources for Assessment and Care of Elders (GRACE)	Urban	Indiana	Medicare/ Medicaid	<ul style="list-style-type: none"> Risk score*: high risk of hospitalization based on probability of repeated admissions (PRA)—score >0.4/hour 	Delivery system	High risk	Off-site with frequent interaction	Grant/ health system
Guided Care	Urban	Maryland	Medicare	<ul style="list-style-type: none"> Risk score* (original study) Physician referral (current) 	Delivery system	High risk	Embedded but not fully integrated	Grant/ health system
Health Quality Partners	Rural/ Suburban	Pennsylvania	Medicare/ Medicare Advantage	<ul style="list-style-type: none"> Medicare: One or more high-risk chronic conditions (CHF, CAD, diabetes, and COPD) combined with one or more hospitalizations in prior year Aetna Medicare Advantage Risk score plus one or more high-risk chronic conditions Sutter Health Questionnaire 	Regional CM organization	High risk	Off-site with frequent interaction	Payer
King County Care Partners	Urban	Washington	Medicaid	Risk score*	Regional CM organization	High risk	Off-site with frequent interaction**	Payer
Massachusetts General Hospital Care Management Program	Urban	Massachusetts	Medicare	Risk score* combined with annual cost of care	Delivery system	High risk	Embedded, but not fully integrated	Payer/ health system
New York City Health and Hospitals Chronic Illness Demonstration Project: Hospital to Home	Urban	New York	Fee-for-service Medicaid	Risk score*	Delivery system	High risk	Embedded/integrated part of primary care team	Grant/ health system
Oklahoma SoonerCare Health Management Program	Both	Oklahoma	Medicaid	<ul style="list-style-type: none"> Risk score* One or more chronic conditions 	Payer	PCMH	Off-site with frequent (urban) and occasional (rural) interaction	Payer
Sutter Care Coordination Program	Urban	California	Commercial/ Medicare	<ul style="list-style-type: none"> Referral Any one of the following: <ul style="list-style-type: none"> Unplanned readmission within 30 days Two or more admissions in past year Two or more ED visits in past year Seven or more medications Diagnosis of CHF, COPD, or pneumonia Three or more chronic conditions 	Payer/ Delivery system	High risk	Embedded/off-site with regular interaction	Payer/ health system

* A risk score is a product of predictive modeling that generally takes into account age, gender, medical diagnoses and procedures, prescription use, and/or prior utilization or health expenditure.

** King County Care Partners has a “champion” embedded at each primary care site.

Key to Abbreviations

CAD: coronary artery disease

CHF: congestive heart failure

COPD: chronic obstructive pulmonary disease

ED: emergency department

PCMH: patient-centered medical home

Appendix Table 2. Outcomes from 18 Primary Care–Integrated Complex Care Management Programs

Program/Population	Utilization/Cost			Quality		
	Admission/ Readmission	Emergency Department Utilization	Cost of Care	Quality of Care	Provider Experience	Quality of Life/ Patient Experience
Aetna's Medicare Advantage Provider Collaboration Program Medicare	Decreased admissions by 38% (year 1), 35% (year 2), 30% (year 3) vs. controls; 30-day all-cause hospital readmission rates were 5% (year 1); 11% (year 2), and 9% (year 3) ⁶ [Evidence Level 2]	Decreased ED visits by 28% (year 1), 28% (year 2), and increase by 12% (year 3) vs. controls ¹ [Evidence Level 2]	Decreased total cost by 19% (year 1), 26% (year 2), 33% (year 3) vs. controls ¹ [Evidence Level 2]	In year 3, 99% of patients had an annual office visit, 98% of patients with CHF, diabetes, or COPD had semiannual visits; 99% of patients with diabetes received HbA1c test; 95% of patients discharged from hospital or skilled nursing facility had a follow-up visit within 30 days ¹ [Evidence Level 3]	Physicians reported that the program saves time, they have greater certainty that recommendation will be followed, they appreciate patient updates ¹ [Evidence Level 3]	No data
AtlantiCare Special Care Center All Payers	Decreased admissions by >20% for SCC enrollees vs. propensity matched controls ⁷ [Evidence Level 2]	Decreased ED visits by >20% for SCC enrollees vs. propensity matched controls ² [Evidence Level 2]	Decreased cost of care trend from 25% to 4% annual rise post-enrollment ² [Evidence Level 3]	Increased proportion of patients with LDL<100 from 55% to 65%; increased medication adherence rate; decreased smoking rate compared to national average ² [Evidence Level 3]	Clinic staff reported increased job satisfaction; health coaches were interested in their roles and took initiative to learn more ² [Evidence Level 3]	Increased proportion of patients who reported their PCP seemed informed and up-to-date about care received from specialists (51% to 93%) and knowledgeable about their medical history (56% to 93%) ² [Evidence Level 3]
Camden Coalition (Link2Care— Camden Care Management Program) Medicaid and Medicare	Decreased admissions by 57% per month among “super-users” ⁸ [Evidence Level 3]	Decreased ED visits by 33% among “super-users” ³ [Evidence Level 3]	Decreased costs of care (charges incurred) by 56% among “super-users” ⁹ [Evidence Level 3]			Decreased patient-perceived mean number of unhealthy days (e.g., activities disrupted because of physical or mental health issues) [Evidence Level 3]
Care Management Plus Medicare/Mixed	Decreased admissions by 1% (year 1) and 3% (year 2); decreased admissions in diabetes patients by 5% (year 1) and 9% (year 2) ¹⁰ [Evidence Level 2]	Increased ED visits by 1% (year 1) and 6%* (year 2); decreased ED visits by 3% (year 1) and increased ED visits in diabetes patients by 3% (year 2) ⁵ [Evidence Level 2]	Mean reduction of \$200K per primary care practice because of avoidance of unnecessary services ¹¹ [Evidence Level 2]	Decreased mortality by 3% (year 1 and 2) vs. control; decreased mortality in diabetes patients by 4% (year 1) and 5% (year 2) vs. control in diabetes patients; HbA1c levels decreased 300% greater than control group ⁶ [Evidence Level 2]	Providers report time-savings, better patient engagement and understanding, and more efficient team performance [Evidence Level 3]	
CareOregon Health Resilience Program (working on behalf of Health Share of Oregon) Medicaid	Decreased non-obstetric hospital admissions by 34% ⁷ [Evidence Level 3]	Decreased ED visits by 33% ⁷ [Evidence Level 3]			Clinic staff reported deep connection with patients, decreased burden, and increased satisfaction ¹² [Evidence Level 3]	Patients reported strong bond with HRP staff ⁷ [Evidence Level 3]

Program/Population	Utilization/Cost			Quality		
	Admission/ Readmission	Emergency Department Utilization	Cost of Care	Quality of Care	Provider Experience	Quality of Life/ Patient Experience
Community Care of North Carolina (Community Care of the Sandhills) Medicaid	Decreased admissions by 7% (adjusting for clinical severity): 67 PKPY in 2009 to 64 PKPY in 2012 ¹³ [Evidence Level 3]	Decreased ED visits by 4% (adjusting for clinical severity): 807 PKPY in 2009 to 774 PKPY in 2011 ⁷ [Evidence Level 3]	Decreased total cost of care by 3% (adjusting for clinical severity): \$352 PMPM in 2009 to \$332 PMPM in 2011 ⁷ [Evidence Level 3]	Improved outcomes on 17 quality measures (including nine HEDIS measures) in 2012 compared with 2009, and performed better than HEDIS benchmarks for eight of the nine HEDIS measures [Evidence Level 3]		
The Everett Clinic Medicare/Mixed	Decreased 30-day readmissions by 15% ¹⁴ [Evidence Level 2]		Decreased annual per capita spending 20% ⁹ [Evidence Level 2]	SF12 physical functioning and mental functioning increased by 15% and 16%, respectively; 18% more patients reported that they “received care as soon as needed” ⁹ [Evidence Level 3]		
Fletcher Allen Health Care— Vermont Blueprint Community Health Team (CHT)—Burlington All Patients (Payer-Blind)	Decreased admission rates by 21% (from 2006-2011)*; decreased admission rate by 6% (over three years) vs. <1% in controls*** ¹⁵ [Evidence Level 2]	Decreased ED visit rates by 32.8% (from 2006-2011)* ¹¹ ; decreased ED visit rates by <1% (over 3 years) vs. an increase in controls by 10%*** ⁹ [Evidence Level 2]	Increased in annual per capita expenditures by 22% vs. 25% in controls ¹⁰ [Evidence Level 2]	Decreased body-mass index by 59.1%, improved HbA1c 66.7% with an average decrease of >1% and improved in LDL by 31.6% with an average decreased of 24mg/dl; CHT patients six months after graduation had and average weight loss of 14lbs ¹⁶ [Evidence Level 2]		
Geisinger ProvenHealth Navigator All Patients (Payer-Blind)	Decreased admission rates by 18% (over four years); decreased 30-day readmission rates by 24% (over four years) ¹⁷ [Evidence Level 2]	No change in ED visit rates per 1,000 (over four years) ¹³ vs. an increase in controls [Evidence Level 2]	Decreased total expenditures by 8% (over four years) ¹³ [Evidence Level 2]	Improved HEDIS measures (LDL control, blood pressure control, HbA1c testing, diabetic eye exam, microalbuminuria, therapy for rheumatoid arthritis, and imaging for low back) ¹³ [Evidence Level 2]	86% of PCPs reported the program allowed them to provide more comprehensive care; 93% of PCPs agree/agree strongly that they would recommend the program to others ¹³ [Evidence Level 3]	72% of patients believed quality of care was better ¹³ [Evidence Level 3]
Genesys HealthWorks Health Navigator All Patients (Payer-Blind)	Decreased admission rates by 70% (2008), 25% (2009), and 32% (2010) ¹⁸ [Evidence Level 3]	Decreased ED visits by 58% (2008), 47% (2009), and 47% (2010) ¹⁴ [Evidence Level 3]		Increased in HbA1c checks and annual eye exam rates; patients reported increased healthy behaviors (increased fruits/vegetables/exercise, decreased smoking, increased medication adherence) ¹⁴ [Evidence Level 3]		
				Overall patient satisfaction was >98% in all years surveyed ¹⁴ [Evidence Level 3]		

Program/Population	Utilization/Cost			Quality		
	Admission/ Readmission	Emergency Department Utilization	Cost of Care	Quality of Care	Provider Experience	Quality of Life/ Patient Experience
Geriatric Resources for Assessment and Care of Elders (GRACE) Medicare/Dual Eligible	Decreased admission rates by 12% (year 1), 44% (year 2) ⁵ , and 40% (year 3, post-intervention) ^{5,4,2} and decreased readmission rates by 74% (7-day) ⁵ , 45% (30-day), and 40% (90-day) ^{5,19} for those at highest risk of hospitalization [Evidence Level 1]	Decreased ED utilization rates by 5% (year 1), 35% (year 2) ⁵ , and 21% (year 3, post-intervention) ^{5,4,2,20} for those at highest risk of hospitalization [Evidence Level 1]	Average total cost of care was \$10.7K vs. \$10.5K in controls (year 1), \$7.5K vs. 9K (year 2), \$5.1K vs. 6.6K (year 3, post-intervention) ⁵ ; ED expenditure for those at highest risk of hospitalization was \$5.77 vs. \$7.33 in controls (year 2) ²¹ [Evidence Level 1]	Mortality rate was 7.0% vs 7.8% in controls (year 2); “dramatic improvements” in ACOVE quality indicators—general health care (immunizations, continuity) and geriatric conditions (falls, depression) ¹⁵ [Evidence Level 1]	Physicians were much more satisfied with the resources available to treat patients in the GRACE program vs. usual care ^{5,15} [Evidence Level 1]	SF-36 scores improved in four of eight scales: general health, vitality, social function, and mental health ^{5,15} [Evidence Level 1]
Guided Care Medicare	Decreased admission rates by 6% vs. controls; decreased 30-day readmissions by 13% vs. controls ²² [Evidence Level 1]	Increased ED visits by 2% vs. controls ¹⁸ [Evidence Level 1]	Average net savings of \$75,000 per Guided Care nurse per year ²³ [Evidence Level 1]	Mortality was not different in intervention group vs. controls; “aggregate quality of chronic care” was higher vs. controls (at 32 months) ¹⁸ [Evidence Level 1]	Physician satisfaction higher with patient/family communication and knowledge of their patients’ clinical characteristics (at 1 year) ^{5,24} [Evidence Level 1]	Increased odds (OR 1.66 ⁵) of “excellent or very good” access to telephone advice vs. controls ¹⁸ [Evidence Level 1]
Health Quality Partners (HQP) Medicare	Decreased admissions among higher-risk subgroups by 25%–39% ²⁵ ; decreased same-hospital 30-day readmissions by 26% ²⁶ among higher-risk subgroups [Evidence Level 1]	Decreased ED visits for higher-risk patients by 37% ⁵ in high-risk subgroups ²⁷ [Evidence Level 1]	Decreased net expenditures among higher-risk subgroups by 10%–28% ²⁸ ; decreased skilled nursing facility costs by 64% ²⁹ [Evidence Level 1]	Mortality among intervention participants was 9.9% vs. 12.9% in controls (over 4.2 years)—a 25% lower relative risk of death [Evidence Level 1]	67% of physicians, on average, felt that the program increased patients’ overall quality of care; 80% said they would recommend the program to patients and colleagues; “physicians widely agreed that the programs made things easier for the physicians’ office staff and did a good job of monitoring and follow-up” ⁸ [Evidence Level 3]	Patient reported improved ability to get answers from physicians, explain medical terms, and explain warning signs; Health Quality Partners received consistently higher ratings from their patients than did the other programs ³⁰ [Evidence Level 3]
King County Care Partners Medicaid	Decreased admission per 1,000 members by 1.8 vs. controls ²⁵ [Evidence Level 1]	No difference in ED visits vs. control ²⁵ [Evidence Level 1]	Decreased mean total cost of care by \$321 PMPM vs. controls; no differences in total Medicaid medical costs, inpatient costs, ED costs, long-term costs, in-home services costs, and prescription costs ³¹ [Evidence Level 1]	Mortality was 63% lower in the intervention group vs. controls; no difference in time to death ²⁵ [Evidence Level 1]		95% indicated they would recommend program to a friend; 83% indicated that services helped them deal more effectively with their problems ²⁵ [Evidence Level 3]

Program/Population	Utilization/Cost			Quality		
	Admission/ Readmission	Emergency Department Utilization	Cost of Care	Quality of Care	Provider Experience	Quality of Life/ Patient Experience
Massachusetts General Hospital Care Management Program Medicare	Decreased admission rates by 20%; no change in 90-day readmissions ²⁶ [Evidence Level 2]	Decreased ED visit rates by 13% ²⁶ [Evidence Level 2]	There was a 7% annual net savings; Medicare return on investment was \$2.65 (original intervention group) and \$3.35 (refresh intervention group) ³² [Evidence Level 2]	Decreased mortality for intervention group (16% vs. 20%) (at 36 months) ²⁶ [Evidence Level 2]	67% of the PCPs agreed that the program improved their quality of practice; 73% of the PCPs agreed the CM improved the quality of care ²⁶ [Evidence Level 3]	Patients reported improvements in discussion of treatment choices and communication with health providers ^{5,26} [Evidence Level 3]
New York City Health and Hospitals Chronic Illness Demonstration Project: Hospital to Home Medicaid	Decreased admission rates by 16% (non-homeless), 47% (homeless and housed), and 11% (homeless, not housed) (year 1) and inpatient days by 26% (non-homeless), 75% (homeless and housed), and 3% (homeless, not housed) (year 1) ³³ [Evidence Level 3]	Decreased ED visit rates by 22% (non-homeless), 17% (homeless and housed), and 4% (homeless, not housed) (year 1) ³³ [Evidence Level 3]	Decreased total PMPM costs by 6% (non-homeless), 12% (homeless and housed), and increased total PMPM costs by 11% (homeless, not housed) (year 1) ³³ [Evidence Level 3]			
Oklahoma SoonerCare Health Management Program Medicaid	Decreased inpatient days by 65% (Tier 1) and 56% (Tier 2) vs. MEDai forecast (year 1) ³⁴ [Evidence Level 2]	Decreased ED visit rates per 1,000 patients by 5% (Tier 1) and 18% (Tier 2) vs. MEDai forecast (year 1) ²⁸ [Evidence Level 2]	Increased total PMPM costs by 3% (Tier 1) and decreased by 1% (Tier 2) vs. MEDai forecast (year 1) and decreased by 5% (Tier 1) and 10% (Tier 2) vs. MEDai forecast (year 2) ²⁸ [Evidence Level 2]	Participant completion rate for 17 of the 21 diagnosis-specific measures increased vs. controls; significant for certain asthma, heart failure, CAD, diabetes, and hypertension measures ²⁸ [Evidence Level 2]	87% of practices surveyed reported improved chronic disease care; 68% reported being very satisfied with the program ²⁸ [Evidence Level 3]	86% (Tier 1) and 84% (Tier 2) of patients reported being very satisfied with the program ²⁸ [Evidence Level 3]
Sutter Health Care Coordination Program Medicare	Decreased 30-day readmission rate by 5.7% (year 1), 6% (year 2), and 6% (year 3) vs. control ³⁵ [Evidence Level 3]	Decreased ED visits per 1,000 patients by 699 visits vs. baseline ²⁹ [Evidence Level 3]	Decreased PCP costs by 20%, decreased specialist costs by 48%, decreased acute care costs by 48%, and decreased ED visit costs by 38% ²⁹ [Evidence Level 2]	Decreased HbA1c by 1.5% ⁵ and decreased LDL by 40mg/dl in patients with diabetes vs. controls ²⁹ [Evidence Level 2]		

⁵ = statistically significant.

* Data represent finding from the entire enrolled population at Community Care of the Sandhills, and not specifically the high-risk subset. Other Community Care of North Carolina sites may have had different outcomes.

** Within the Chittenden County Program.

*** Overall.

Key to Abbreviations

ACOVE: [Assessing Care of Vulnerable Elders](#)

CAD: coronary artery disease

CHF: congestive heart failure

COPD: chronic obstructive pulmonary disease

ED: emergency department

HbA1c: Hemoglobin A1c

HEDIS: Healthcare Effectiveness Data and Information Set

LDL: Low-density lipoprotein (LDL cholesterol)

Appendix 3. List of Interviewees

Michelle M. Crook, R.N., B.S.N., C.C.M. Randy Krakauer, M.D. Cathy Spencer, R.N.	Aetna's Medicare Advantage Provider Collaboration Program
Sandy Festa, L.C.S.W., C.A.D.C. Maudis Parks Jennifer Puzziferro, R.N., M.S.N. Katherine Schneider, M.D.	AtlantiCare Special Care Center
Kelly Craig, M.S.W., L.S.W. Sue Liu, M.P.A. Jason Turi, R.N., M.P.H.	Camden Coalition
David Dorr, M.D., M.S. Kerri Frazier Ann Larsen, R.N., C.D.E. Kelli Radican Liza Widmeir, B.S.N.	Care Management Plus
Laurie Lockert, M.S., L.P.C. Rebecca Ramsay, B.S.N., M.P.H. Amy Vance, M.S.W.	CareOregon Health Resilience Program (working on behalf of Health Share of Oregon)
Brenda Sedberry, R.N. Vivian C. McInnis, R.N. Tammie K. McClean, R.N., B.S.N.	Community Care of North Carolina (Community Care of the Sandhills)
Brenda Rogers, R.N., M.S.N. Kristi Stevens Jennifer Wilson-Norton, R.Ph., M.B.A.	The Everett Clinic
John Brumsted, M.D. Pam Farnham, R.N. Kerry Sullivan, M.S.W.	Fletcher Allen Health Care–Vermont Blueprint Community Health Team (CHT)–Burlington
Diana Jackson Diane Littlewood, R.N., B.S.N., C.D.E. Janet Tomcavage, R.N., M.S.N.	Geisinger ProvenHealth Navigator
Erin Conklin Lisa Horne, M.S.W. Trissa Torres, M.D., M.S.P.H., F.A.C.P.M.	Genesys HealthWorks Health Navigator
Carrie Bone, M.S.N., G.N.P. Jenny Grover, M.S.W. Steven Counsel, M.D. Lois Cross, R.N., B.S.N., A.C.M. Kathy Frank, R.N., Ph.D.	Geriatric Resources for Assessment and Care of Elders (GRACE)
Kathleen Grieve, R.N., B.S.N., M.H.A. Gary Noronha, M.D., F.A.C.P. Lora Rosenthal, R.N., B.A.	Guided Care
Ken Coburn, M.D., M.P.H. Maryellen Keller, R.N., B.S.N. Sherry Marcantonio, M.S.W.	Health Quality Partners
Tia Hallberg, R.N. Daniel Lessler, M.D., M.H.A. Mary Pat O'Reilly	King County Care Partners
Eileen Fagan, R.N., B.S.N. Robin Grossman, R.N. Joanne Kaufman, R.N., M.S.N. Eric Weil, M.D.	Massachusetts General Hospital Care Management Program
Rachel Davis, M.P.A. Ruth Freeman, M.D. Ross Wilson, M.D.	New York City Health and Hospitals Chronic Illness Demonstration Project: Hospital to Home
Tirzha Buczek, R.N. Bobbie Jo McKenzie, R.N. Carolyn Reconnu, R.N., B.S.N. Ronda Scruggs	Oklahoma SoonerCare Health Management Program
Lois Cross, R.N., B.S.N., A.C.M. Michaela Robertson, R.N. Jan Van Der Mei, R.N., S.M., A.C.M.	Sutter Care Coordination Program

ABOUT THIS STUDY

The aim of our study was to identify key operational attributes and best practices of successful primary care–integrated complex care management (PC-CCM) programs. We posed the following primary research questions:

1) What are the core operational attributes and best practices of successful programs? and 2) How are successful programs customized for specific populations or contexts?

We selected sites for potential inclusion in the study based on review of the peer-reviewed and grey literature and snowball sampling, starting with recommendations from an eight-member expert steering committee and involving study participants. Based on inclusion criteria approved by our study steering committee, we selected 20 total sites for inclusion in the study. The criteria were:

1. Focus on complex populations: PC-CCM programs must select a complex population that they deem to be at increased risk for poor health outcomes or high cost (based on any definition).
2. Aligned with primary care: close integration with existing primary care teams.
3. Comprehensive care management focus: focus on the whole person and multimorbidity, rather than a single disease process.
4. Existing data on performance indicating improved outcomes.
5. Currently in operation.

Each site received at least two email invitations to participate in the study. Once sites agreed to participate, they chose a representative site in their system and identified three key informants for interview (see below).

Study Design

We assessed each program using semistructured key-informant interviews and review of published manuscripts and program materials obtained from each of the sites. We performed at least three one-hour, semistructured interviews per site with the following key informants: 1) an executive leader involved in developing or supporting the PC-CCM program, 2) a program director responsible for managing program operation, and 3) a frontline care manager responsible for direct delivery of care to patients. We performed additional interviews, as necessary, to obtain further clarification and detail. We assessed six study domains through these semistructured interviews:

1. Program context and structure
2. Patient selection
3. CCM team structure
4. Scope of work
5. Hiring and training
6. Use of information technology

Program Outcomes

We obtained reports of outcomes from each site. Although some of these programs were evaluated with rigorous methods, not all of these reports were research studies or formal evaluations. As a result, we applied a simplified framework, based on the U.S. Preventive Task Force Methodology, to classify the level of evidence:

- Level I: Evidence obtained from at least one properly designed randomized controlled trial.
- Level II: Evidence obtained from well-designed, cohort case controlled trials, or controlled trials without randomization.
- Level III: Evidence obtained from multiple time series with or without the intervention or dramatic results in uncontrolled trials.

Twenty sites were selected for final inclusion in the study, and 18 sites completed the semistructured interviews. We reviewed program outcomes and ensured that each program met basic criteria for success, defined as positive findings in at least one quality domain and one cost or utilization domain. One site refused to participate and another site did not respond to multiple requests for interviews.

Notes

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King County Strategic Initiative

KCEMS Strategic Initiative
Pilot Project
Taxi Transport Voucher Program

Issue: King County Emergency Medical Services (KCEMS) agencies provide Basic Life Support (BLS) response to patients who call 911 for a wide range of medical issues, including low-acuity symptoms and injuries. When a low-acuity patient requires a non-emergent transport to an emergency department (ED), urgent care clinic (UC), primary care physician (PCP), or other medical facility, options for transport include the BLS unit at the scene, a private ambulance, or privately-operated vehicle (POV). If the patient does not have access to private transportation or cannot wait for it to become available, the default option often becomes a BLS unit or private ambulance.

In 2009, there were approximately 20,709 BLS responses to low-acuity patients (classified as BLS yellow and Telephone Referral Program level symptoms); 24% (n=4980) were not transported, 10.2% (n=2,118) were transported by BLS unit, 32% (n=6,625) were transported by private ambulance, and 5.2% (n=1,081) were transported by POV. BLS units engaged in transport of low-acuity patients remain out of service for longer periods, unavailable for higher-acuity calls. Even when a private ambulance performs the transport, BLS units often remain on scene until the ambulance arrives. Low-acuity patients unnecessarily transported by ambulance may be responsible for co-pays or fees in the hundreds of dollars. In addition, nearly half (46.2% n=9,563) of these low-acuity patients were transported to EDs, compared to 3% (n=622) transported to clinics or other medical facilities.

Project Overview: The 2008-2013 EMS Strategic Plan includes initiatives to improve management of non-emergency calls and development of alternative patient transport methods, including taxis. Although taxi transports are authorized by EMT patient care protocols as an alternative transport method, they are rarely suggested by EMS personnel due to lack of knowledge about available options, concerns about liability, patient expectations, and ingrained habits. In addition, some patients are not able to afford a taxi fare. To encourage more use of the taxi transport option for eligible patients, we recommend development of a 9-month pilot project to provide fully paid round-trip taxi transport vouchers to patients identified by EMTs or telephone triage nurses as meeting criteria outlined in the EMT Patient Care Protocols:

1. Paramedic care is not required
2. Patient is ambulatory
3. Patient has a non-urgent condition (clinically stable) including **low index of suspicion for:**
 - a. Cardiac problem
 - b. Stroke
 - c. Abdominal aortic aneurysm
 - d. GI bleed problems
 - e. Major mechanism of injury
4. Patient must not have:
 - a. Need for a backboard
 - b. Uncontrolled bleeding
 - c. Uncontrolled pain
 - d. Need for oxygen (except patient self-administered oxygen)
5. The EMT considers a taxi to be an appropriate and safe method of transportation for the particular clinical problem.
6. Patient should be masked if there are respiratory symptoms.

Eligible patients identified using these criteria could be provided with a taxi voucher authorizing transport to an appropriate hospital, clinic, or primary care physician.

(over)

Project Components:

- 9-month Pilot Project
- Participating agencies: Redmond FD, Renton FD, Evergreen Nurseline (NL)
- 300 round-trip taxi vouchers (600 one-way) funded by KCEMS
- Taxi company contracted by KCEMS
- Pre-pilot training for EMTs, 911 communications center personnel, taxi personnel, and Evergreen NL
- Community Awareness education about program and benefits
- UW Human Studies approval

Primary Project Objectives:

For Redmond FD, Renton FD, and Evergreen Nurseline low-acuity patients:

- Utilize a minimum of 75% of the vouchers available (225 vouchers).
- For patients transported by taxi, reduce the average BLS unit time at scene by 5 minutes, increasing their availability for other EMS calls.
- Provide cost savings to patients and insurers by decreasing low-acuity private ambulance transport percentage by 20% (28.3% of transports in 2009; Objective - 22%)
- Reduce the number of “transport” sendbacks from Nurseline to 911 centers by 75%. (36 in 2009; Objective - 9 or less)
- Provide intervention patient satisfaction with service equal to or higher than that of control patients
- Evaluate project and potential for permanent program

Secondary Project Objective:

- Increase low-acuity patient transports to non-ED facilities by 25% (2.4% “Clinic” and “Other” rate in 2009; Objective – 3.0%)

Tentative Project Start Date: December 1, 2010

(over for data sheet)

2009		Transport category									
		No Transport	FD Transport	1 - Paramedic Transport	2 - Paramedic Transport	Private Ambulance - ALS	Private Ambulance - BLS	Private Auto	Not Recorded	Other	Total
Redmond	Total	217	204	2	0	1	74	25	67	3	593
	Row N %	36.6%	34.4%	.3%	.0%	.2%	12.5%	4.2%	11.3%	.5%	100.0%
Renton	Total	658	314	7	0	0	709	120	326	38	2172
	Row N %	30.3%	14.5%	.3%	.0%	.0%	32.6%	5.5%	15.0%	1.7%	100.0%
Combined	Total	875	518	9	0	1	783	145	393	41	2765
	Row N %	31.6%	18.7%	0.3%	0.0%	0.0%	28.3%	5.2%	14.2%	1.5%	100.0%

2009		Transport Destination					
		Not Recorded	No Transport	Hospital	Clinic	Other	Total
Redmond	Total	75	244	271	0	3	593
	Row N %	12.6%	41.1%	45.7%	.0%	.5%	100.0%
Renton	Total	326	663	1120	13	50	2172
	Row N %	15.0%	30.5%	51.6%	.6%	2.3%	100.0%
Combined	Total	401	907	1391	13	53	2765
	Row N %	14.5%	32.8%	50.3%	.5%	1.9%	100.0%

2009		Time On Scene		
		All Responses	FD Transport	Ambulance Transport
Redmond	Count	593	204	74
	Mean	21	21	31
Renton	Count	2172	314	709
	Mean	17	21	23
Combined	Count	2765	518	783
	Mean	19	21	27

Voucher Program Summary: King County Emergency Medical Services Division

Taxi Transport Voucher (TTV) Program Summary

King County Emergency Medical Services Division

Program Manager: Erik Friedrichsen | Erik.Friedrichsen@kingcounty.gov | 206-263-1457

Background

Taxi cabs are an appropriate alternative method of transportation for individuals accessing the 9-1-1 system for certain low-acuity medical concerns. In 2009, there were over 10,000 transports to emergency departments, clinics, and other facilities in King County (excluding Seattle); the majority of which were by ambulance. The Taxi Transport Voucher (TTV) program is designed to provide an alternative to ambulance transport. In many circumstances, emergency transport of individuals with non-urgent medical conditions is not covered or reimbursable. This can result in individuals being billed many hundreds of dollars. Without alternatives, individuals may decline transportation and delay or not seek appropriate treatment. In addition, transport of these individuals ties up valuable emergency resources, rather than allowing them to respond to more urgent fire and medical calls in the community. Providing taxi vouchers to these individuals offers them the ability to access needed care.

Program

Currently, twenty fire agencies in King County participate in the TTV program. BLS crews in each of these agencies issue vouchers based on Medical Director approved Patient Care Protocols. Crews are provided a decision matrix that includes the medical criteria, prompts to consider alternative destinations apart from the emergency department, and rule-out other options for non-emergent patient transportation (e.g., POV, public transportation, friends and family). After identifying eligible individuals, crews issue a voucher and either call for a taxi or instruct the individual receiving the voucher to call for the taxi. A single taxi company is contracted in order to maintain a quality relationship and improve ability to resolve issues. Taxis are committed to arriving to EMS requests within 30 minutes; if response time is not met the EMS crew retains the option to revert to traditional transportation methods. If indicated, EMS crews are allowed to return to service after issuing the voucher. Taxi drivers are instructed to inspect the voucher prior to transport and contact the EMS crew if the voucher appears to be altered – particularly the destination location. Appropriate destinations are identified by King County EMS Division and provided to EMS crews as reference but not enforced.

Results in Brief

- Program began July 1, 2012
- 1663 vouchers issued as of 10/31/2015
 - o 58.2% one-way (1 voucher)
 - o 41.8% round-trip (2 vouchers)
- Average one-way fare: \$28.04
- Average round-trip fare: \$56.08
- Top destinations:
 - o Emergency department/hospital
 - o Urgent care
 - o Medical clinic
- 4 fraudulent voucher identified (0.2% of total)
- Average age: 44 years old
- Gender/Sex: 55.9% male
- Major chief complaint categories:
 - o Falls/accidents/pain
 - o Abdominal/back pain
 - o Sick (unknown)/other
- Specific chief complaints:
 - o Abdominal/back pain
 - o Minor injury
 - o Breathing difficulty
- Patient satisfaction during pilot: 88%
- Program cost avoidance to date: \$583,700¹
- Medical cost avoidance to date: \$98,000²

¹ Program actuals versus 2012 GAO estimate of EMS transport cost (adjusted to 2015 US dollars), \$479.

² Estimated difference of low-acuity medical Emergency Department visit, \$955, versus urgent care, \$210, for subset of individuals transported to alternative destination.

Project Summary Sentara Halifax: Care Coordination in the Emergency Department with EMS
Organizations as Partners

Project Summary: Care Coordination in the Emergency Department with EMS Organizations as Partners

Sentara Halifax Regional Hospital

Sentara Halifax Regional Hospital (SHRH) serves a large (approximately 1,600 square mile) rural swath of central southern Virginia. As the only hospital in this area, SHRH relies on EMS squads in remote locations to transport patients in need of care to the emergency room. The journey to SHRH can be as much as 45 miles. There are 8 EMS organizations that transport to SHRH. Most of those employ few EMTs or paramedics, relying heavily on volunteers with deep ties to the community and long histories of community engagement through the volunteer rescue squads they serve. One challenge the EMS crews face is attracting new members to replace aging volunteers, and retaining those they do engage.

This proposed program addresses several needs:

- 1) It provides additional information, otherwise possibly unavailable, to ED staff at patient encounters which might be crucial to generating appropriate treatment
- 2) It provides opportunities for care coordinators to refer patients to community services that could address social determinants of health, possibly improving patient health and reducing the need for ED visits
- 3) It provides opportunities for patients with chronic diseases to receive positive health information from sources they know and trust as members of their own communities
- 4) It provides an opportunity for the EMS members to receive additional training that can improve their skills as EMS providers as well as providing a sense of professionalization and renewed motivation to serve in this capacity

The program would be operationalized by stationing a care coordinator in the ED. EMS crews, trained in some of the same topics that CHWs would be trained in - home safety assessment, managing chronic diseases, social/community service availability and access, the needs of the aging, healthy diets, and others as requested by the EMS members, would report to the care coordinator on duty when arriving with a program participant. They would report any conditions at the home or in their interactions with the patient that would trigger a report from a CHW. Program participants, enrolled voluntarily because they meet certain criteria such as number of transports in the past year or recommendation of their primary care physician, would receive referrals and information on managing their health and life conditions from the Care Coordinator. They would have access to a home safety audit performed by a trained EMS member if requested. The EMS provider and the patient would ensure that an account of the patient's current health conditions, medication reconciliation, and list of medical providers, is up-to-date and readily available in case of the need to transport (for example, in a brightly colored envelope on the refrigerator). The EMS members would have access to preventive health and wellness information that they could share with members of their rural communities. Periodic meetings of representatives of each EMS crew would serve to coordinate and encourage cooperation among crews.

The program would be measured by participant satisfaction, EMS member satisfaction, the number of transports of participants (declining), improvements in participant health indicators specific to their conditions.

CSB: HPR I Regional Admissions

HPR I REGIONAL ADMISSIONS PROTOCOL

Serving the individuals and communities for the following Community Service Boards (CSBs):

Alleghany Highlands Community Services Board, Harrisonburg-Rockingham Community Services Board, Horizon Behavioral Health, Northwestern Community Services, Rappahannock Community Services Board, Rappahannock Rapidan Community Services, Region Ten Community Services Board, Rockbridge Community Services Board, and Valley Community Services Board.

Section 1: Purpose and Expectations

It is of critical importance to achieve a safe placement for individuals in crisis within the time limit afforded by the Code of VA. Clear and consistent procedural expectations are to be established among the stakeholders of HPR I to define what steps are to be taken to seek TDO admissions to private psychiatric hospitals. This protocol establishes the process to be followed when a private hospital bed is not readily available and an admission to a state hospital is necessary. By establishing this protocol, it is the goal of HPR I to find appropriate placement for TDO eligible individuals within the allotted time frame and to ensure that no one who requires a TDO admission is released to the community without receiving adequate treatment.

Section 2: Preadmission Screening Procedure

As mandated by VA Code, a law enforcement officer taking Emergency Custody of an individual for the purpose of a preadmissions screening assessment will contact the local CSB Emergency Services program as soon as is practicable to notify them of the need for an assessment (contact information for HPR I CSB Emergency Services programs can be found in Appendix B). The CSB prescreener will then respond to the appropriate ECO location to begin the process of the preadmissions screening assessment as quickly as possible. Historically, response time guidelines have suggested a response of one hour or less for urban CSBs and two hours or less for rural CSBs.

In addition, VA Code requires that all individuals taken into emergency custody will be provided with a written summary that explains the ECO procedure. This summary should be provided to the individual by the law enforcement officer who takes the individual into custody as soon as is practicable upon taking emergency custody of that individual.

Once the CSB prescreener is notified of a pending preadmissions screening evaluation for an individual under an ECO (paper or paperless), they will then contact the appropriate state hospital to notify the state hospital that the individual being evaluated will be transported to that facility upon issuance of a temporary detention order (TDO) if no other facility of temporary detention can be identified by the end of the ECO period. The state facility should receive notification of the need for a prescreening as soon as possible but no more than

one hour from either the beginning of the ECO period or from the request of the preadmission screening assessment when an ECO has not been issued but a TDO admission appears likely.

In addition, the appropriate state hospital is to be notified upon the completion of the preadmission screening assessment for individuals under an ECO (paper or paperless). When a TDO admission is indicated by the prescreening assessment and, in the clinical judgment of the prescriber appears likely to necessitate a state admission, the completed preadmission screening form should be sent via FAX to the state facility, along with a notification phone call. The state hospital may perform their own search for an alternate hospitalization in collaboration with the CSB prescriber and, if successful, will notify the CSB prescriber immediately that a willing private hospital has been located.

Section 3: Procedures for Seeking Private Hospital Beds for TDO Admissions

HPR I is comprised of nine CSBs that cover a large and diverse area. Over the years, the ES department at each Board has developed working relationships with a number of private hospitals. These hospitals typically are the ones closest to the CSB geographically, recognizing the best practice of hospitalizing individuals close to home and family as best as possible in order to enable families to better participate in treatment and discharge planning when appropriate. However, CSBs also have established strong relationships with private hospitals, both within the HPR I service area and outside it, that have LIPOS contracts with HPR I and utilize them for TDO admissions frequently.

The CSBs will use the standard list of private hospitals listed in the Psychiatric Bed Registry (PBR) but may prioritize their own order of this list rather than attempting to create a “one size fits all” list of hospitals for all to use. This will allow each Board to continue to best serve their clients by utilizing those hospitals nearest to them in proximity or that have the best working relationships with them by calling them first to seek admission.

If TDO admission is the indicated disposition of the preadmission screening evaluation, the steps taken by a CSB prescriber to secure a private TDO admission are as follows:

Step 1: Private psychiatric hospitals and Crisis Stabilization Units (CSUs) as appropriate with reported bed availability per the PBR will be contacted first to secure a TDO bed. For the sake of timeliness and to maximize the number of private hospitals that can be called, it will be necessary for the prescriber to contact a number of these hospitals simultaneously to request a bed. Unless indicated otherwise, bed searches will begin with those facilities in close proximity to the prescreening CSB and/or those with LIPOS contracts with HPR I. If none of these facilities are able to admit the individual, other appropriate facilities across the state may be contacted for possible admission.

It is the expectation of this protocol that hospitals will work to give responses regarding admissions (either approving or declining admissions) as promptly as possible. Once an

admission is secured, the prescriber should contact the appropriate state hospital to cancel the potential request for a bed.

Step 2: If the search of the PBR hospitals with reported bed availability is unsuccessful, the prescriber may then begin to contact hospitals listed on the PBR that are not currently showing bed availability, particularly those that may not have updated bed status on the PBR recently, to seek admission.

For each prescreening, the CSB prescriber will document which private hospitals were called, the time the calls were initiated, the response received, and the time of the responses. This documentation will be in accordance with the CSB's policies and will be particularly important should the case need to be reviewed as part of the Quality Improvement process (see Section 12). The PBR will also document the process for each individual bed search, in addition to those records kept by the CSB and the PBR records may also be reviewed for Quality Improvement purposes.

Section 4: Procedures for Seeking State Hospital Beds When Private Beds are Unavailable

When the ECO reaches the **6** hour mark from the time it was executed and a private hospital bed has yet to be secured, a call will be made by the prescriber to the state hospital to notify admissions staff that a TDO bed search is in process and the bed search is extending past **6** hours. It should be emphasized that this call is not made to necessarily seek admission at the state facility at that time but rather to continue the collaboration with the state facility and the discussion of admission should it become necessary.

If, after collaboration between the CSB prescriber and admissions staff at the state hospital, it appears that no private beds are available and a state bed will be sought, the CSB prescriber may notify their ES Manager or Designee, in accordance with CSB procedures, to discuss a possible request for admission to the state facility. The ES Manager or Designee will review the request with the prescriber and, as appropriate, will authorize the prescriber to contact the state hospital to formally request admission. This review will include factors such as availability of willing private facilities, as well as medical appropriateness, substance abuse issues, and other factors that may impact the safety of the individual and indicate appropriateness for admission to a state hospital.

If no private psychiatric bed has been identified by the **7** hour mark of the ECO period, the prescriber will notify the appropriate state facility that a TDO admission is being sought at that facility. The state facility admissions staff will notify the prescriber ASAP when admission has been approved to allow adequate time for the prescriber to pursue the TDO from the Magistrate. The formal process of securing the TDO from the Magistrate should begin no less than **30** minutes before the expiration of the in order to ensure TDO disposition within the allowable time parameters.

If the state facility is unable to accept the patient due to capacity issues, it shall be the responsibility of the state facility director, or his or her designee, to arrange admission to another state facility that has an available and appropriate bed. Disposition to an alternate state facility, if appropriate, is to be established and the TDO obtained by the end of the ECO period.

It is understood that, under no circumstance, should an individual who is medically appropriate and who meets TDO criteria be released from an ECO without an admission to a psychiatric facility and the disposition should not take longer than the maximum time period allowed by VA Code for an ECO (8 hours).

Section 5: Medical Assessment and Medical Screening Procedural Expectations

The purpose of this process is, essentially, threefold: 1) to determine that the individual who is being prescreened is not in any imminent medical danger, 2) to determine that apparent psychiatric symptoms are not the result of underlying medical factors, and 3) to help determine an appropriate facility, if hospitalization is warranted, that will have the capacity to safely manage any medical issues that the individual may have.

A basic Medical Assessment of an individual who is the subject of a preadmission screening may include the following:

- Physical Exam
- CBC
- Urinalysis
- Comprehensive Metabolic Panel
- Urine drug screen and blood alcohol level
- EKG (if indicated)

Based upon the results of the above assessment (if indicated) and/or the individual's medical history, other testing may be required before the individual can be assessed as medically appropriate for admission to a psychiatric facility. If further testing or assessment is required for admission to be considered, it is expected that the potential receiving facility communicate this to the CSB preadmission screener ASAP. The CSB preadmission screener will notify the medical staff performing the Medical Assessment of this request ASAP in order to maximize the use of the time allotted under the Emergency Custody Order.

In many cases, there will be potential dispositional issues regarding medical appropriateness for psychiatric admission between the physician performing the Medical Assessment/Screening and the physician at the potential receiving psychiatric hospital. Because the ability to appropriately resolve these issues typically requires a level of medical training that far exceeds that of most CSB preadmission screeners, differences of opinion regarding medical appropriateness will require a direct physician to physician consultation. A physician's designee may also suffice for this purpose, provided that the hospital's policies allow for that. The CSB prescreener is to

facilitate this consultation to the extent possible (e.g. provide facility phone numbers, etc.) but will not be required to ultimately resolve the medical screening issue. It is recommended that all communications related to medical screening and assessment be documented in accordance with CSB policy.

All policies and procedures related to medical screening and assessment will be in accordance with the “Medical Screening Guidance” document issued by DBHDS in April, 2014.

Section 6: Accessing HPR I REACH Program in Cases Involving Individuals with ID/DD

In any preadmission screening involving an individual with either documented or suspected Intellectual Disability(ID) and/or Developmental Disability (DD), the HPR I REACH program will be contacted and advised of the prescreening as outlined in each CSB’s Linkage Agreement with the HPR I REACH program. Contact information for the REACH program can be found in Appendix B of this document.

It is understood that REACH may not be able to divert a psychiatric admission at the time of the preadmission screening. However, a REACH consultation may indicate additional resources to resolve the crisis or, in many cases, begin the process of expediting discharge planning or facilitate a step-down admission to the REACH therapeutic home for an individual with ID/DD. Additionally, for individuals with ID or DD admitted to Western State Hospital, in order to ensure the most appropriate treatment options, the regional protocol entitled “HPR I ID/BH Crisis Coordination Memorandum of Agreement” (see Appendix A) may be utilized for coordination of services between the local CSB, Western State Hospital and Central Virginia Training Center.

Section 7: Substance Abuse and/or Intoxicated Individuals

Substance use and/or intoxication are not exclusionary criteria for admission to a state facility unless the individual is medically compromised or in need of medical detoxification. WSH will advise ER physicians when an individual’s clinical needs exceed the hospital’s medical capacity to safely monitor and treat, consistent with federal EMTALA law. WSH does not have the capability for intubation or providing ventilator support or inserting IVs if the need should arise. There is no specific cut-off point for BAL. An individual cannot be admitted if he/she is obtunded or is having difficulty breathing or regulating their airway or have an underlying medical condition that cannot be appropriately treated at WSH. Individuals with such circumstances will be subject to the guidelines involving medically-compromised individuals as established in Section 5 of this protocol.

Section 8: Individuals Who Are Deaf

While individuals who are deaf or otherwise hearing-impaired may have specialized needs in terms of treatment, the Admission Protocol should be followed as for any other adult person with

private facilities to be sought for admission whenever possible. As mandated by State Code, VDDHH (Virginia Department for the Deaf and Hard of Hearing) maintains a directory of Qualified Interpreter Services and works to remove communication barriers. DBHDS, in cooperation with the CSBs, provides comprehensive consultative services; contact Kathy Baker, Coordinator of Services at 540/213-7527.

Section 9: Children and Adolescents

As is the case with adults needing TDO admission, CSB prescreeners will seek admission to private psychiatric facilities for children and adolescents following the same process as outlined in Section 2 above. However, if no private facilities are available for admission for children and adolescents, a placement at Commonwealth Center for Children and Adolescents (CCCA) will be sought in accordance with the CCCA Admissions and Bed Management Plan of June 2014 (attached).

Section 10: Geriatric Admissions

HPR I is served by two different state facilities for treatment of geriatric patients (defined as having reached age 65 or older). Rappahannock CSB, Rappahannock Rapidan CSB, and Region Ten CSB are served by Piedmont Geriatric Hospital, while Alleghany Highlands CSB, Harrisonburg-Rockingham CSB, Horizon Behavioral Health, Northwestern CSB, Rockbridge Area CSB, and Valley CSB are served by the geriatric unit of Catawba State Hospital.

The procedures for seeking a psychiatric admission for a geriatric individual will, in many ways, follow the same steps indicated for seeing admissions for adult patients in Sections 2 through 4 of the Regional Admissions Protocol document. Private psychiatric hospitals that specialize in geriatric care (as listed on the PBR) should be sought first for admission whenever possible.

However, because geriatric admissions often present an increased likelihood of challenges, particularly related to medical screening and assessment issues, contact should be made with the appropriate state geriatric facility earlier in the process to allow the state facility more time to adequately process the referral in a manner that is conducive to the safety of the patient and the appropriateness of the placement.

When seeking a psychiatric admission for a geriatric individual and a bed at a private facility has not been found, the CSB prescriber will contact the state geriatric facility (Catawba or Piedmont, depending on the CSB) at the **5** hour mark of the ECO (or prescreening) process. This call is made to notify the geriatric facility that an admission may be needed at the state facility so that the state facility can begin the process of reviewing the admission materials.

Following this notification call, the prescriber will continue to pursue admission at appropriate private facilities, utilizing the Psychiatric Bed Registry to help identify facilities that may have beds suitable for geriatric patients. However, if the ECO/prescreening process reaches the **6 1/2**

hour mark without a willing private admitting facility identified, the CSB prescriber will contact his/her ES Manager (or designee), who will then contact the Facility Director, or designee, at either Catawba Hospital or Piedmont Geriatric Hospital (depending on the CSB) to secure a safety net bed.

Once the Facility Director/designee is notified, the approval process for a bed at the geriatric facility continues with review by the physician and nursing supervisor.

During the day, the Social Work Director will notify the CSB of acceptance, or, if after hours, the Nursing Supervisor will do so.

If no safety net bed is available at the designated facility, the Facility Director, or designee, will contact other geriatric state facilities for possible placement. Alternate placement is to be determined prior to the end of the ECO period or 8 hours from the initiation of the preadmission screening assessment for individuals not under an ECO but who require a TDO admission.

Section 11: State Hospital Bed Utilization

Critical to the success of any regional admissions protocol is the demonstrated ability to derive the maximize benefit from a limited pool of resources. This is especially true of the need to keep potential state hospital “safety net” beds open to the greatest extent possible in order to make certain they are available to accommodate emergency TDO admissions when they are needed. To keep these beds free as possible, it is imperative to monitor bed utilization in the state hospitals from admission to discharge.

HPR I has historically been proactive in terms of bed utilization reviews at Western State Hospitals. CSB Liaisons meet on a monthly basis to review WSH patients who are either ready for discharge or are approaching readiness for discharge in order to collaborate to achieve successful and timely discharges from WSH as appropriate.

When an individual is admitted to WSH on a direct TDO due to lack of availability of a private hospital bed, the CSB who performed the preadmission screening will notify the HPR I Regional Initiatives Director via email no later than the start of the next business day. The Regional Initiatives Director will monitor and track all direct TDO admissions during their stay at WSH and will collaborate, as appropriately, with the case management CSB and WSH to help facilitate discharge or transfer to either a private hospital or CSU, if clinically indicated. The Regional Initiatives Director will also maintain records of all direct TDO admissions to WSH, including date of admission, length of stay, and final disposition. This information will be reported to the HPR I Executive Director Forum, the HPR I UMT group, and the HPR I CSB Liaisons to WSH at regularly-scheduled meetings of these groups.

Section 12: Quality Improvement and Review

For a Regional Admissions Protocol to be successful and adaptive to ongoing changes to legislation, private and state psychiatric hospital resources, and CSB resources, among other changes, there needs to be an active and robust Quality Improvement and Review process. The practical effectiveness and overall success in reaching its goals needs to be assessed on a regular basis, with feedback from every stakeholder involved in the TDO process. In addition to ongoing protocol development, the Quality Improvement process must also be responsive to resolving problems that may arise in the implementation of the protocol in a timely fashion, in order to prevent these problems from re-occurring to the greatest extent possible.

The Virginia Department of Behavioral Health and Developmental Services (DBHDS) requires each CSB to submit monthly reports of any instances involving TDOs that, for whatever reason, extended past the allotted 8 hour ECO period or that were not issued when required. These reports are submitted to the HPR I Regional Initiatives Director who reviews and compiles the data before submitting a regional report to DBHDS. This data is instrumental as a barometer of success of the Regional Admissions Protocol and will be reviewed regularly by all involved stakeholders as part of the ongoing quality improvement and review process. In cases where a TDO admission was required but was not achieved, the CSB Executive Director is to be notified as soon as possible, and is required to submit a written notification of this event to DBHDS within 24 hours of the event.

In HPR I, there currently exists organizational infrastructure that would appear to be well-suited for overseeing and administering much of the Quality Improvement process. Specifically, these would be the Regional Access Committee (RAC), the Utilization Management Team (UMT), and the Executive Directors (ED) Forum.

The RAC is composed of representatives from the nine CSBs in HPR I (typically from the Emergency Services department), representatives from the Admissions Department at Western State Hospital, the HPR I ID/DD Project Manager, and the HPR I Regional Initiatives Director. Each CSB RAC representative is responsible for communicating and collaborating with private hospitals for cases involving individuals served by their Boards. This group meets twice each week (on Tuesday and Thursday mornings, with the exception of holidays) via conference call, but also has the ability to meet at other unscheduled times on an emergency basis as the need arises. The primary purpose of the RAC is to review potential transfers of patients from private psychiatric facilities to Western State Hospital, taking into consideration appropriateness for transfer as well as the triaging of potential transfers bases upon severity of need, acuity and dangerousness, etc. In addition, cases involving direct TDO admissions to Western State Hospital (due to lack of private hospital bed availability or other factors) are discussed in the RAC call. Because this group meets frequently and involves so many stakeholders, it would seem logical that this group would be the first place to discuss cases that involved problematic TDO cases. If necessary, the Regional Initiatives Director will reach out to any and all private

psychiatric hospitals that were involved in the case to seek further information and input from the hospitals. The RAC representative from the CSB that performed the preadmission screening in question will be responsible for staffing the problem TDO with the RAC group at the soonest RAC conference call. Through collaboration and constructive problem-solving, it is expected that the majority of problem cases will result in resolution and, in some cases, suggestions for potential changes to the protocol. In cases where RAC makes recommendations for corrective actions, the Regional Initiatives Director will notify the hospitals and CSBs that were directly involved in the problem TDO and what, if any action is recommended by the RAC team.

The UMT meets bimonthly (every other month) and is a larger group, composed of the same individuals in RAC, plus representatives from private psychiatric hospitals, HPR I regional Crisis Stabilization Units (CSUs), representatives from DBHDS, and other CSB staff, including Mental Health Directors, etc. The primary function of this group is to review the utilization of resources in HPR I to make certain that they are being used in the most effective and efficient manner possible. The HPR I Regional Initiatives Director will report, at each UMT meeting, any problem cases that were reported to and discussed by RAC, as well as provide information regarding the resolution and disposition of the cases as available. The UMT group will be tasked with providing continuous oversight of the Regional Admissions Protocol and its effectiveness and will serve as an advisory group to the HPR I Executive Directors Forum to provide any input, suggestions, or recommendations regarding potential modifications to the Regional Admissions Protocol.

The HPR I Executive Directors Forum meets on a monthly basis and, as its name implies, is composed of the Executive Directors of the eight CSBs in HPR I. However, this meeting is also attended by other stakeholders, including (but not limited to) DBHDS, Western State Hospital, the Commonwealth Center for Children and Adolescents, Central Virginia Training Center, and the HPR I ID/DD Project Manager and the HPR I Regional Initiatives Director. The HPR I Regional Initiatives Director will include, in his monthly report to the ED Forum, discussion of problem TDO cases that were discussed by RAC and/or UMT, including dispositions and protocol revision suggestions as appropriate. The HPR I ED Forum is the organizational body responsible for establishing regional protocols and will make the final decision regarding the content of the Regional Admissions Protocol, as well as any modifications made to the protocol moving forward.

In addition, the CSBs of HPR I plan to form a work group tasked with reviewing Emergency Services protocols and procedures, in general, to promote and maintain the incorporation of national standards.

Signed:

Damien Cabezas, Executive Director, Horizon Behavioral Health	Date
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Robert Johnson, Executive Director, Region Ten CSB	Date
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David Deering, Executive Director, Valley CSB	Date
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Brian Duncan, Executive Director, RRCSB	Date
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Lacy Whitmore, Jr., Executive Director, HRCSB	Date
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Ron Branscome, Executive Director, Rappahannock Area CSB	Date
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Dennis Cropper, Executive Director, Rockbridge Area CSB	Date
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Mark Gleason, Acting Executive Director, Northwestern CSB	Date
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Ingrid Barber, Executive Director, Alleghany Highlands CSB	Date
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Dr. Mary Clare Smith, Acting Director, Western State Hospital	Date
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APPENDIX A

Health Planning Region I ID/BH Crisis Coordination

Memorandum of Agreement

Purpose:

The purpose of this agreement is to provide procedures for HPR I CSBs, Central Virginia Training Center (CVTC), and Western State Hospital (WSH) to determine where and how individuals in crisis and needing institutional emergency services would best be served. This agreement will allow for fluid movement between the intellectual disability and behavioral health systems for those persons in crisis.

Region I ID/BH Crisis Coordination Program

This procedure is designed to assure access to institutional emergency treatment services for those individuals who have a dual diagnosis of intellectual disability / behavioral health (ID/BH) or who have intellectual disability and are experiencing severe behavioral or emotional crises. These individuals often are turned away from the local hospitals or alternative community placements. Referrals would come from Emergency Services workers.

Referrals would include those persons with dual diagnosis and persons with intellectual disability who are in immediate crisis, whose behaviors pose risks of danger to self or others, and whom the community providers cannot or will not accept.

Procedures:

A. Initial Response (Refer to Region I's CSB Protocol)

B. Emergency Admissions to Private Hospitals

Community hospitals are a consideration for individuals with dual diagnosis or individuals with intellectual disability and severe behavioral issues. The CSBs will maintain a list of community providers and hospitals with pre-established agreements to provide short term emergency services. It is agreed that at the end of this short term inpatient service, the individual will return to the community again if stable and assessed as ready for discharge. In the event the person continues to display disruptive behaviors, an assessment team from CVTC may screen the individual and recommend the most appropriate facility or facilities for placement. The DSM IV-TR diagnostic criteria will be used to determine a diagnosis of Mental Retardation / Intellectual Disability.

If the CSB believes that the individual is in need of further inpatient psychiatric treatment, then it will make a referral for HPR I/WSH Regional Authorization Committee (RAC) review. RAC may request a consultation by CVTC staff through the CVTC Coordinator of Community and Social Services, to evaluate the individual. Those persons identified with an Axis I disorder considered

appropriate by the Community Service Performance Contract and RAC will be considered as requiring psychiatric treatment, although placement at CVTC may be a consideration if this is most appropriate for the individual.

C. Admission Procedures to Western State Hospital

Civil admissions will be limited to individuals residing in the HPR I catchment area. The admitting diagnosis will be established by a qualified CSB staff member. Once the diagnosis has been determined for referral criteria, there will be no further debate regarding primary axis determination. The WSH Admissions Coordinator will arrange for admission during regular business hours. Referrals are only coordinated by the CSB Emergency Services.

- The CSB Emergency Services worker will ensure that the Prescreening Form is complete and as accurate as possible with appropriate primary Axis I diagnosis identified.
- All applicants must be medically screened prior to admission.
- Those individuals with dual diagnosis who have been assessed to be functioning in the moderate or mild range of mental retardation will be referred to WSH when it appears crisis issues are psychiatric in nature. These individuals will generally have an assessed IQ above 50.
- Individuals with dual diagnosis who have been assessed to have an IQ at 50 or below will be referred to CVTC when the issues are not psychiatric in nature.
- If, after consultation with the Admission Coordinator at WSH, it is determined that WSH may not be appropriate, the CSB will then contact the Coordinator of Community and Social Services at CVTC to discuss the most appropriate placement.
- Admission will be by Temporary Detention Order (TDO) to WSH if the person is in crisis has a dual diagnosis of ID/BH or a provisional psychiatric diagnosis and has an IQ score generally above 50.
- Within the timeframe of the TDO an assessment and initial treatment plan will be completed by medical/psychiatry staff at WSH to determine, if possible, the primary cause of the disruptive behavior or altered mood, and rule in/out psychiatric conditions as the primary cause of the crisis. Once this determination is made, WSH will consult with the CSB case manager and proceed with either continued hospitalization at WSH or request that the CSB begin the referral process to appropriate programs or locations.
- CSB case manager, WSH, and CVTC will discuss options and agree on the appropriate placement.
- The Civil Commitment hearing will be coordinated and scheduled at WSH and any medical/psychiatric findings will be presented. WSH and the CSB will enter the hearing with either: (1) a recommendation for no Civil Commitment or (2) a recommendation for Civil Commitment whether to a local community hospital or WSH or (3) a recommendation for CVTC emergency admission in coordination with WSH and CVTC. If the person is not committed, discharge arrangements will be coordinated with the CSB.

Emergency Admission Procedures to Central Virginia Training Center

If the decision is made that the individual is more appropriate for CVTC or placement at WSH is denied at the Civil Commitment Hearing and treatment is still felt to be needed, the qualified CSB staff would then complete the CVTC Emergency Care (21-Day) Admission Intake Form and submit this to the Coordinator of Community and Social Services at CVTC. Weekend, holiday or after-hour requests for admission will be held until the next working day. Following notification, the

Coordinator of Community and Social Services or designee will follow all routine admission procedures as described below.

- A completed CVTC Emergency Care (21-Day) Admission Intake Form with attachments and all other relevant materials shall be forwarded to the Coordinator of Community and Social Services, CVTC, for admission review and consideration.
- All applicants must be screened prior to admission by CVTC staff.
- The application is reviewed by the Coordinator of Community and Social Services, CVTC, who coordinates the Admission Management Committee review.
- The Coordinator of Community and Social Services then reports back to the Director of CVTC with the Committee's recommendations.
- Pending the CVTC Director's approval, the Coordinator of Community and Social Services notifies the CSB case manager of the decision.
- All individuals accepted to CVTC using the above procedure will be accepted on a 21-day emergency basis.
- No one can come to CVTC with legal charges of any kind pending.

D. Transfers Between Participating State Facilities

CVTC Emergency admissions may begin, by necessity, at WSH due to the time of the request made by the CSB case manager. The CSB case manager and WSH may agree, at the time of the admission, that WSH is not the most appropriate site for treatment.

- Upon Admission to WSH, if CVTC has not been notified due to time of admission (i.e. after-hours, weekend, holiday), the CSB case manager will notify the CVTC Coordinator of Community and Social Services of the admission by 10 a.m. next business day.
- A request for a screening and transfer will be made by WSH to the CVTC Coordinator of Community and Social Services.
- A screening by CVTC staff will be scheduled within 2 business days and communicated to WSH requesting staff by the end of the next business day.
- WSH will fax all documentation pertinent to the transfer request prior to the scheduled date of the screening.
- CSB case manager will complete the appropriate admission documentation and forms, depending on what type of admission is requested, and fax to CVTC prior to the scheduled date of the screening by CVTC.
- The ID Case Manager or designee will be present (in person, by telephone, or videoconference) for the scheduled screening.
- A determination regarding acceptance of the transfer by CVTC will be made and communicated within 1 business day of the screening.

Individuals that are screened for a psychiatric Emergency Admissions to WSH, may later require further stabilization at CVTC.

- WSH will contact the CSB case manager to discuss options with the ID Case Manager.
- After it has been determined by the WSH treatment team that the individual has received maximum inpatient psychiatric treatment benefit, a request for a screening and transfer will be made by WSH to the CVTC Coordinator of Community and Social Services.
- A screening by the CVTC team will be scheduled within 5 business days and communicated to the WSH requesting staff person by the end of the next business day.

- WSH will fax all documentation pertinent to the transfer request prior to the scheduled date of the screening.
- CSB case manager will complete appropriate admission documentation and forms, based on what type of admission is requested, and fax to CVTC prior to the scheduled date of the screening by CVTC.
- The ID Case Manager or designee will be present (in person, by telephone, or videoconference) for the scheduled screening.
- A determination regarding acceptance of the transfer by CVTC will be made within 2 business days of the screening. Notification of this decision will be communicated that same day.

E. Discharge Planning

All services provided at CVTC or WSH will attempt to stabilize individuals and return them to the community as soon as possible. The decision that an individual is ready for discharge is made by the treatment team (i.e., facility staff, CSB staff, individual and family members, as practicable). All parties will follow the discharge protocol.

F. Appeal Process

If the decision for emergency care admission is denied by the Committee, the Executive Director of the requesting CSB may appeal the Committee's decision to both Facility Directors and have turnaround response within 1 business day.

G. Reporting/Monitoring

The Central Virginia Training Center Coordinator of Community and Social Services and the Western State Hospital Admission Director will monitor the implementation of this agreement, provide data to the clinical directors and the directors of their respective facilities and make recommendations as to any reasonable corrective actions.

H. Review of Memoranda of Agreement

This document will be in effect for one year from date of signatories and automatically renew for 4 consecutive years thereafter, unless otherwise terminated by one party in writing. Review of said document will take place by all signatories on an annual basis from the date of signatures and will be initiated by HPR I Regional Initiatives Manager.

APPENDIX B

CSB EMERGENCY SERVICES CONTACT PHONE NUMBERS

Alleghany Highlands CSB	540-965-6537	Business Hours
	540-965-1770	After Hours
Harrisonburg-Rockingham CSB	540-434-1766	
Horizon Behavioral Health	434-847-8035 (Adults)	Business Hours
	434-948-4831 (Child/Adolescent)	Business Hours
	434-845-9404 (Adults)	After Hours
	434-522-8191 (Child/Adolescent)	After Hours
Northwestern CSB	540-635-4804 (select Option 1)	Business Hours
	540-722-5184	After Hours
Rappahannock CSB	540-373-6876	
Rappahannock Rapidan CSB	540-825-3100	Business Hours
	540-825-5656	After Hours
Region Ten CSB	434-972-1800	
Rockbridge CSB	540-463-3141	Business Hours
	540-463-7328 (Rockbridge Co)	After Hours
	540-261-6171 (Rockbridge Co)	After Hours
	540-839-2375 (Bath County)	After Hours
Valley CSB	540 885-0866	

STATE PSYCHIATRIC FACILITY ADMISSIONS CONTACT NUMBERS

<u>FACILITY</u>	<u>PHONE</u>	<u>FAX</u>
CATAWBA STATE HOSPITAL (Business Hours)	540-375-4300	540-375-4399
(After Hours)	540-375-4711	
COMMONWEALTH CENTER FOR CHILDREN AND ADOLESCENTS	540-332-2120	540-332-2202
PIEDMONT GERIATRIC HOSP. (Business Hours)	434-294-0112	434-767-2352
(After Hours)	434-767-2352	*
*will be provided by admissions staff		
WESTERN STATE HOSPITAL (Business Hours)	540-569-3187	540-332-8144
(Business Hours)	540-569-3189	
(After Hours)	540-332-8001	540-332-8144

REACH PROGRAM CONTACT NUMBER

REACH	1-855-917-8278
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Statistical Reasons of 911 abuse: Morehead

Providers are overwhelmed with the evaluation, treatment and transport of patients who have “minor” medical conditions but who feel they have nowhere else to turn OR who believe they are entitled to call 911 for transport. Statistical Reasons of 911 abuse:

- Lack of Education / Unaware of Resources Available
- No Insurance / No Primary Care Physician
- No Transportation
- Public Perception – “That’s what 911 is for” / “If I go by ambulance, I will get seen faster”
- Entitlement due to Government assisted programs like Medicaid / Medicare

Any change in the evaluation and transport policy must be made as:

- **An improvement in the services we provide.**
 - o Educating the public – Changing the perception – Defining our Paramedic Level services & level of expertise
 - o Encouragement of different mode of transportation (personal vehicle/family member)
 - o Taxi Voucher Program for “Non-Emergent” individuals, when no other transportation available
 - o Referral to APS when indicated or requested by patient (Currently doing this)
- **A necessity in maintaining the operational capabilities of the Fire/EMS system.**
 - o Utilizing the right resources for the right incident
 - o Having Paramedic Level units available for TRUE medical emergencies
 - o Additional staffing available for fire response / manning engines
- **Protecting our provider’s certifications, while improving their morale and working conditions.**
 - o Medical Director & County EMS Director buy in & involvement
 - o Specific guidelines for providers to follow
 - o QA Committee specifically designed to follow Taxi Voucher program
 - o Allows for our skilled providers to be available for incidents where they are needed.
Minimizing the volume of calls and paperwork associated with non-emergent patients.

AREAS FOR VOUCHER CONSIDERATION

AMBULATORY PATIENTS WITH :

- Minor extremity trauma with a low suspicion of fracture
- Minor extremity laceration without loss of function or significant bleeding
- Pain or burning on urination
- Non-traumatic musculoskeletal pain
- Toothache without significant swelling
- Sore throats and upper respiratory infections without wheezing and without significant throat swelling
- Prescription refills
- Scheduled visits to the hospital
- Catheter replacements
- Minor insect or animal bites (without skin puncture)
- Common dermatologic problems (scabies, ringworm, pinworm)

Community Paramedics in Ann Arbor, Michigan

COMMUNITY PARAMEDICS: TWO LOCAL AMBULANCE SERVICES BEGIN PILOT PROJECT FEATURING EXPANDED ROLE FOR PARAMEDICS

Fri, Aug 28, 2015

Ann Arbor, Mich. – August 27, 2015 – Paramedics have always made house calls, usually with the end result being a transport to the hospital. But Huron Valley Ambulance (HVA) and Livingston County EMS (LCEMS), with the support of St. Joseph Mercy Health System and the University of Michigan Health System, have launched a 3-year Community Paramedic pilot project to change that in some cases. The goal of the program is to care for non-acute patients at home, rather than with an ambulance transport to the hospital.

The program, which began August 2nd in Washtenaw and Livingston counties, uses Community Paramedics (CPs) with advanced training to respond to non-acute 9-1-1 calls when people need medical care but have no life-threatening symptoms. At these visits, the Community Paramedics provide primary care for minor illnesses instead of a transport by ambulance to the Emergency Department. Now, when you call 9-1-1 in Washtenaw or Livingston County and there is no serious illness or emergency, the dispatcher may send a CP.

“These Community Paramedics have gone through six additional months of training, improving their assessment skills and completing clinical rotations in non-emergency settings,” states Robert Domeier, MD, the medical director for the EMS system in Washtenaw and Livingston counties who is providing physician leadership for the program. “I have a great deal of confidence in them. The CP has a video link so that the emergency physician can look at the patient, and the patient can look at the physician and ask us questions.”

In addition to their education and experience in assessing patients, CPs use technology such as point-of-care testing that provides lab results obtained from blood and urine, and a video link between the patient and the emergency physician.

CPs also carry antibiotics so they can begin to treat someone with an infection. Once the CPs have given the first dose, they will coordinate care with the patient’s primary care physician and pharmacy to make sure the patient receives and takes the remainder of the prescription. CPs will also schedule a follow up visit or phone call with the patient to make sure they are improving.

On each visit, the CP will determine whether a patient has a primary care physician, and if so, they will follow up with that provider. If the patient does not have a physician, they will be referred to resources to find one.

Many people call 9-1-1 for non-emergencies. Ambulance transports have become a solution for those who do not have a primary care physician or choose not to call them. The number of non-emergency 9-1-1 calls is increasing far faster than the population in both counties.

“Calling 9-1-1 is not the best solution for someone who has a minor medical problem and can get to their doctor,” said Dale Berry, President and CEO of HVA. “A 9-1-1 response, ambulance transport, and emergency room visit is a very costly way to take care of a minor, non-acute illness.

“But as our population ages, many older patients have problems getting into a car when they have an infection or feel terrible,” Berry continued. “Family members know mom or dad needs help but they don’t know what to do. So they call 9-1-1”.

Presently, the pilot project is being financially supported by HVA and LCEMS. Both Washtenaw County and Livingston County governments are also assisting financially. HVA will be charging patients \$180 for a CP visit – which is far less expensive than the cost of an ambulance transport and hospital emergency room visit. Some insurance carriers will cover the visit because they realize the long term cost savings. Other insurers have not made a decision to reimburse for it because it is a new program.

“Our initial experience has shown that the patients seen by Community Paramedics are very satisfied,” continues HVA’s Berry.

“Whatever their problem, if we can care for them at home and avoid ambulance transport and emergency room hospitalization, it’s a win-win for them and it reduces cost for health insurance plans and even hospitals,” said Jeff Boyd, Director of LCEMS.

“This is the first program of its type in Michigan and I think it will be very successful. We are pioneering the concept.”

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Based in Ann Arbor, Huron Valley Ambulance is a nationally accredited, nonprofit community ambulance service covering Washtenaw, western Wayne and southwest Oakland counties.

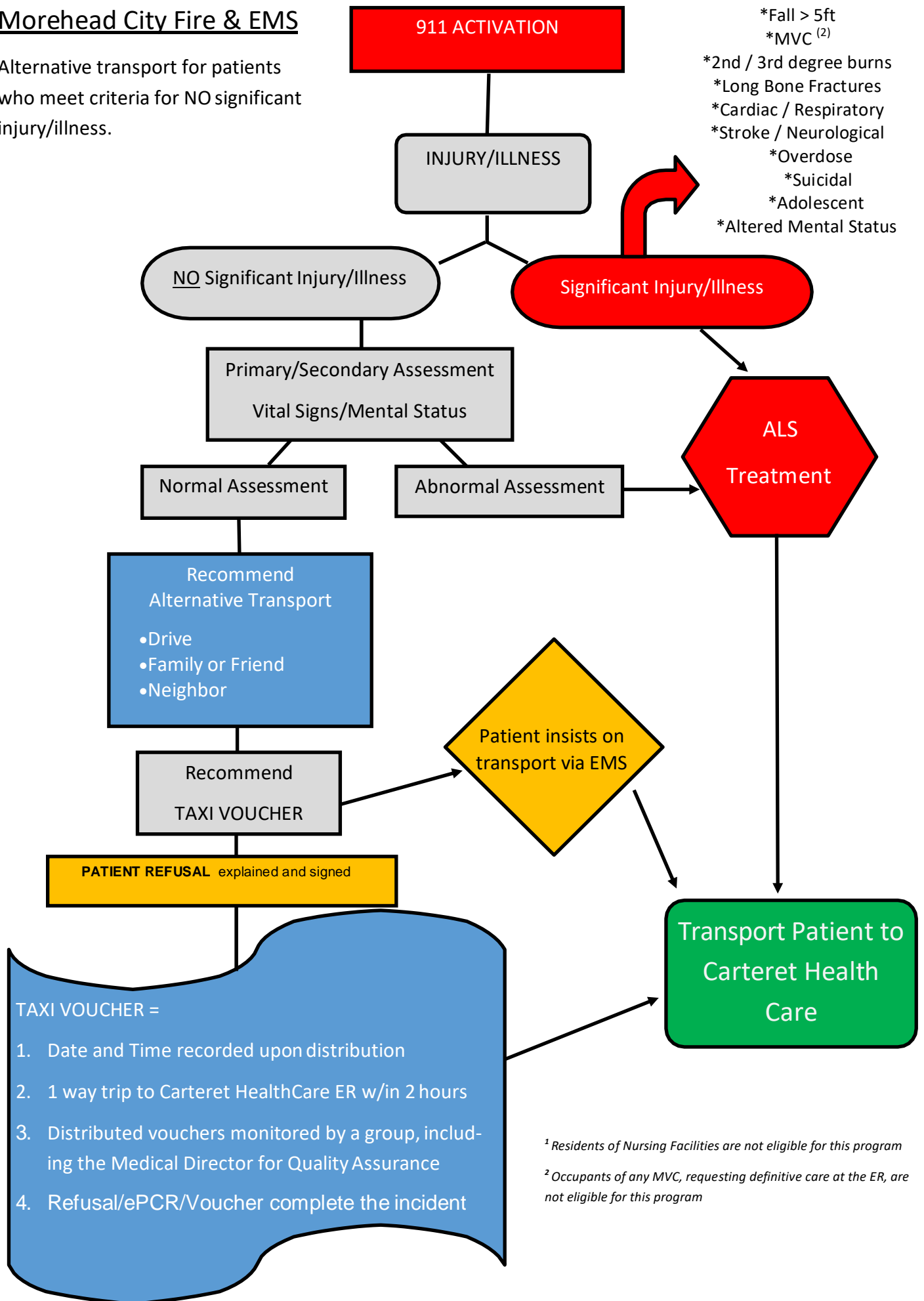
Based in Howell, Livingston County EMS is a department of county government, and provides EMS and ambulance service throughout Livingston County.

The Community Paramedic program has been approved by the EMS Division of the Michigan Department of Health and Human Services in Washtenaw and Livingston counties as a 3-year special study.

Morehead City Fire & EMS protocol flowchart

Morehead City Fire & EMS

Alternative transport for patients who meet criteria for NO significant injury/illness.



The KC Voucher Template

-----:««<M3P/•IIH:I8

,VOUCHER # M1 • QQ1

This voucher may be redeemed for a one way trip to Carteret Health Care Emergency Department.

Voucher only valid for 2 (two) hours from the time issued to citizen. Voucher will be VOID and unable to be redeemed if not used within the 2 (two) hour time frame. Voucher NOT redeemable for cash or credit at any time.

MUST USE one of the following Taxi services listed below.

A 1 Yellow Cab
(252) 240-2700

Carteret Cab
(252) 247-4600

Atlantic Beach Taxi
(252) 240-3555

Date Issued: _ _ _ _ _ Time: _ _ _ _ _ Citizen Name: _ _ _ _ _

Address: _ _ _ _ _

MCFO Authorization _ _ _ _ _

Morehead City Fire & EMS Department 14034 Arendell Street | Morehead City, NC 28557 | Office (252) 726-5040 | Fax (252) 240-0480

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